

In This Issue—*The First Parts Show*

MOTOR AGE

Vol. XLVIII
Number 22

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CHICAGO, NOVEMBER 26, 1925

Thirty-five Cents a Copy
Three Dollars a Year

Which would you rather be? One of forty dealers in a territory trying to sell a cheap car on a shoe string margin—or have a good territory with a good profit on the lowest priced, fastest selling eight cylinder car in America?

Edward S. Jordan

President
Jordan Motor Car Company, Inc.
Cleveland

7

In the new Hupmobile
Six the finest possible six
performance has come
down from the realm
of much higher cost

This car makes the Hup-
mobile franchise even more
valuable than heretofore

The New
Hupmobile

The **QUALITY** **DRAIN-OIL** **Piston Ring**



*Study
in Logic*

THERE should be no problem in selecting the right piston ring to regulate the flow of the surplus oil. Just study the conditions to be overcome and with practical engineering logic—apply the right principle.

This right principle is the DRAIN-OIL.

Test it out or reason it out. Either way you will agree DRAIN-OIL does everything it is possible for an oil regulating piston ring to do.

The up-slanting oil slots have the proper

width, length and spacing, while the ring itself is that same high standard of design, material and workmanship that is guaranteed in all QUALITY BRAND piston rings.

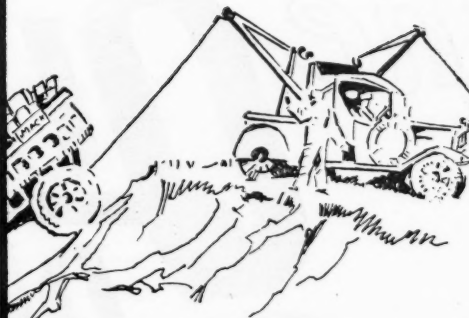
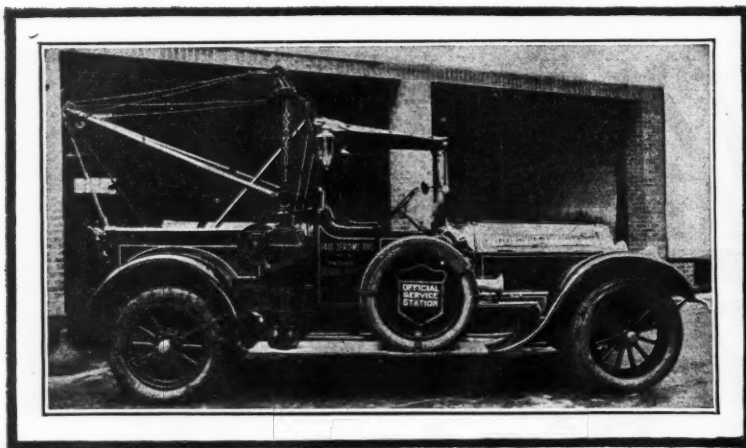
Installed only in lowest piston groove DRAIN-OIL'S razor edged oil slots scrape all surplus oil from cylinder wall, force it through oil slots to oil relief holes drilled through inner wall of piston groove and thence back to crankcase.

DRAIN-OIL always leaves a smooth unbroken oil film for proper lubrication.

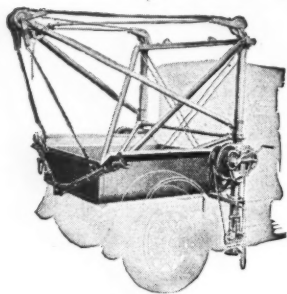
SERVICE DIVISION—OIL RING DEPARTMENT



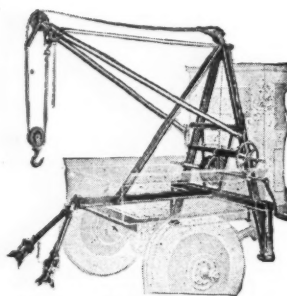
Muskegon, Michigan



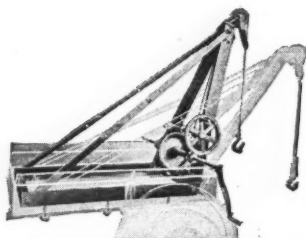
In Ten Months A HOLMES WRECKER TRIPLED OUR BUSINESS



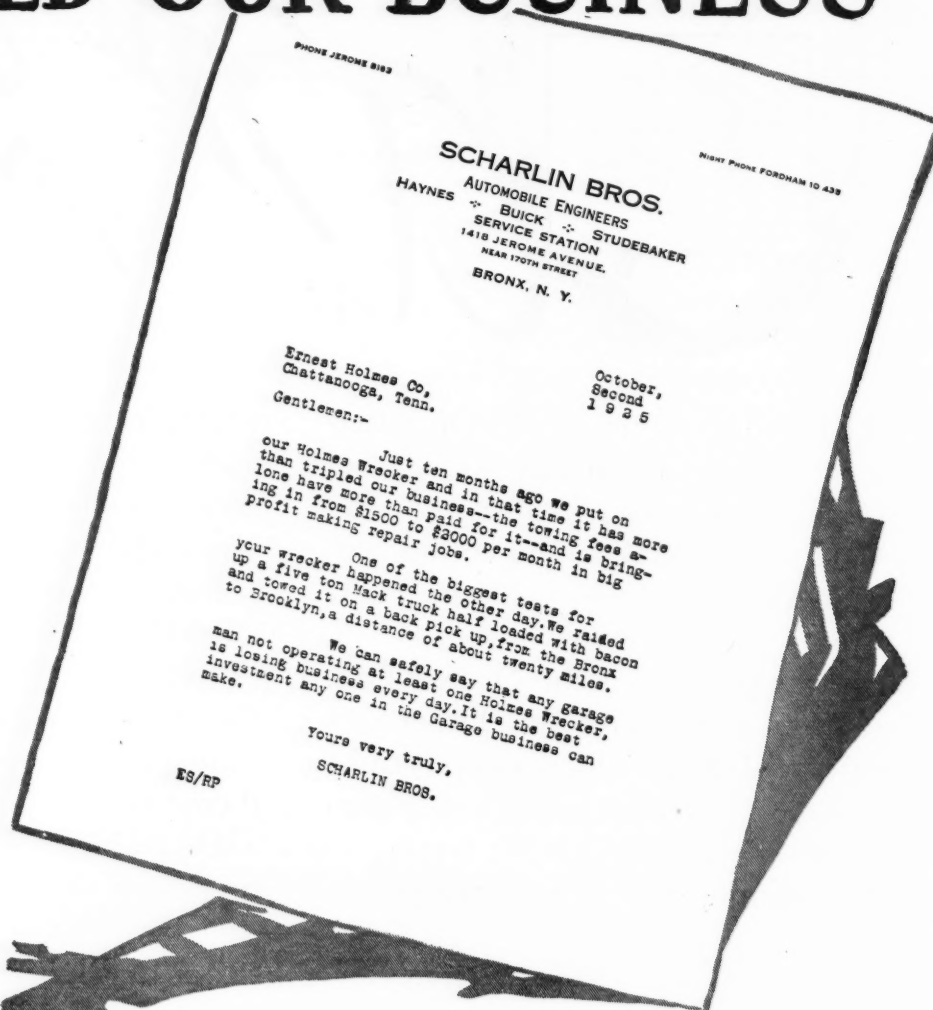
Holmes Wrecker No. 485



Holmes Wrecker No. 250



Holmes Wrecker No. 110



Ask your Jobber to tell you about the three types of Holmes Wreckers, Holmes Cantilever Jack, Holmes Garage Press, Holmes "V" Tow Bars and Holmes Towing Pole or write this company for complete information about Holmes Equipment.

ERNEST HOLMES COMPANY, Chattanooga, Tenn.

MOTOR AGE

VOL. XLVIII

Reg. U. S. Pat. Office

NO. 22

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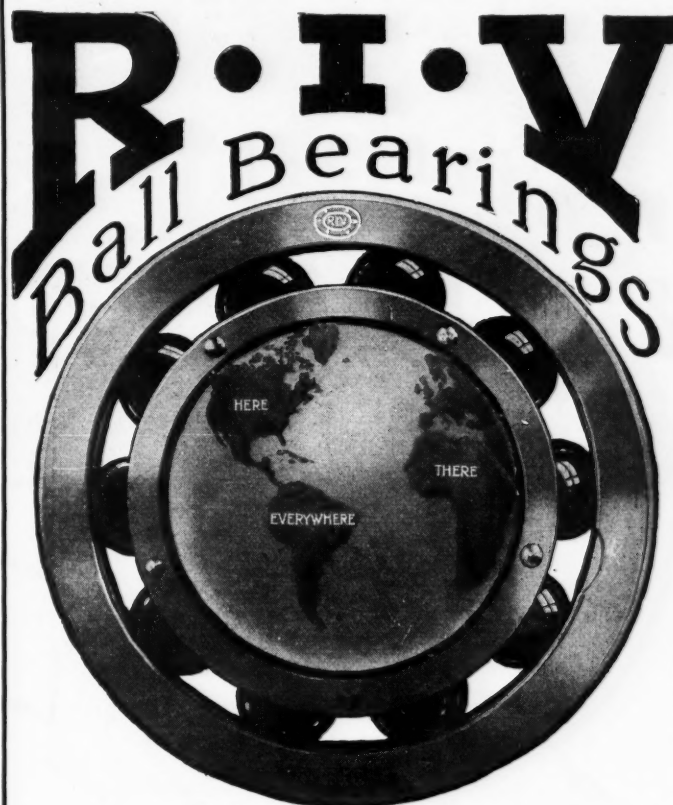
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A Better Proposition for New Agents

Thirty-two substantial new distributors have been added to our list in the last sixty days, each an active buyer of bearings.

The reason is that no *good* merchant is unwilling to make considerably *more* net profit per sale, provided the merchandise is of *known* high quality.

The *new* R. I. V. proposition is unquestionably the most generous on the American market today, when the reputation of the manufacturer, quality and assured deliveries are considered.

It means more money to *you*, if you sell ball bearings; and a fine source of new profit if you *can* sell them, but don't.

Write for this new proposition today.



(Fisk Building)

Broadway at 57th St., New York City

Branches: Detroit and San Francisco

Half the Time
Half the Labor
+ Half the Trouble



If you can save half the time, labor and trouble with LAMINATED shims — why bother with solid metal or old-fashioned shims? Every up-to-date serviceman uses LAMINUM for two reasons: bigger profits and better work. Don't file—PEEL!

**A Shim for Every Car
Your Jobber Sells 'Em**

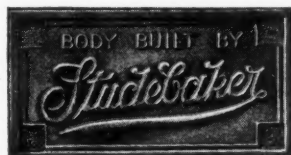
Address "Sales Dept."

LAMINATED SHIM CO., INC.

14th Street and Governor Place,
Long Island City, N. Y.
St. Louis: Mazura Mfg. Co.



LAMINUM



*This symbol means that Studebaker prices do not
include the profits of outside body-makers*

Studebaker dealers enjoy four major advantages over competitors:

- in price (One-Profit values)
- in quality (Unit-Built construction)
- in “No-Yearly-Models”
- in factory promotion of Used Car
Pledge

The Studebaker fran- chise grows more valu- able every day.

THE STUDEBAKER CORPORATION
OF AMERICA
SOUTH BEND, INDIANA

T H I S I S A S T U D E B A K E R Y E A R

Good bye, buggy wheels



Wooden wheels only revolve . . . but BUDD-MICHELIN'S *revolutionary!*

REVOLUTIONARY! Take the question of safety in motoring. A crash with wooden wheels often leaves you stranded. Budd-Michelin steel wheels always carry you home.

Take resilience: Budd-Michelin steel wheels are made in the most resilient shape—convex. They *give*—they cannot splinter.

Take tire changing: Budd-Michelin discs can be demounted and replaced in *three minutes*, with all the work at the clean hub, not the dirty rim.

Take steering and braking: Budd-Michelin *convex* discs permit the

placing of brakes and king-pins where they act most effectively—*within* the wheel. Discs that protect the brakes from mud and water but make them immediately accessible.

Revolutionary performance—unprecedented performance in a motor-car wheel!

Performance built in by the great engineer who designed Budd-Michelin—who made a wheel as modern as the rest of the car—made it of

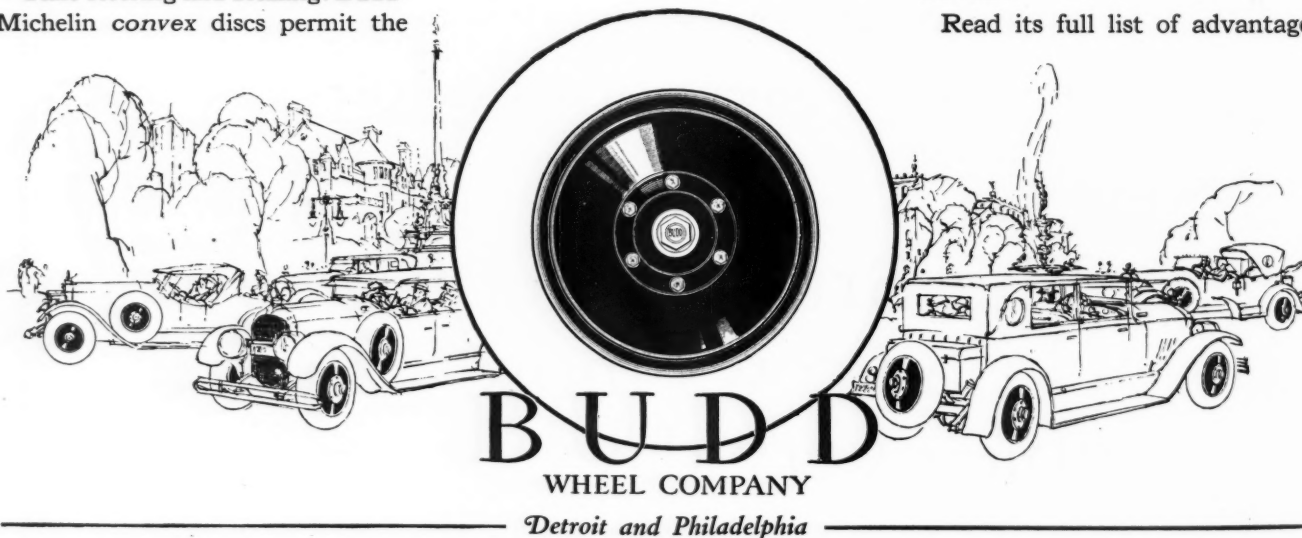
the modern material, steel—started a fashion in the motor-car industry with his

“Good-bye, buggy wheels!”

Now more than half of all the motor cars being made in Europe say “Good-bye, buggy wheels . . . here’s Budd-Michelin.”

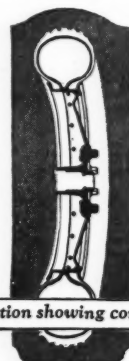
And every season finds more of the leading American makers saying —“Good-bye, buggy wheels . . . here’s Budd-Michelin to help sell the car!”

Read its full list of advantages.



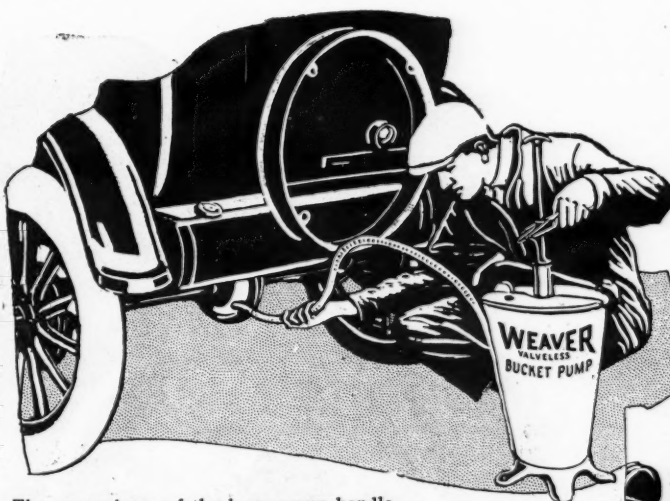
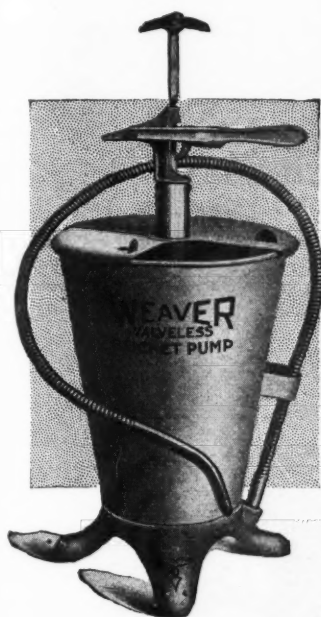
BUDD-MICHELIN—the All-Steel Wheel gives you these advantages:

—a scientific convex form, increasing resilience, and permitting the placing of brakes and king-pins *within* the wheel, for better braking and easier steering—for greater protection of brakes from mud and water



Cross-section showing convex design

—a demountable wheel which hides the brakes, but gives immediate access to them when adjustments are needed
—a light wheel (lighter than wood) tapering toward the rim, making starting and stopping easier
—five wheels to a set. An extra wheel to dress up the rear of the car, easy to substitute in case of tire trouble. No rims to remove
—everlasting strength, promoting safety. Triumphant beauty!



The convenience of the lever pump handle is seen by this illustration. It permits operation from crouching positions when the differential is being cleaned and re-lubricated.

The plunger handle affords ease of operation when working from a standing position. This method discharges the contents quicker and permits use of lighter lubricants.



Two Handy Helpers for Oil and Fuel Service

WEAVER Valveless Bucket-Pump

Without disturbing new lubricant or grease in the bucket, you can draw out old grease from a car and empty it into a pail or other receptacle. Flushing differentials with kerosene is accomplished in the same fashion. And when ready for fresh lubricant you just turn the handle and pump from the bucket supply of new grease.

When filling differentials from a cramped position under car the lever handle is more convenient. When working from a standing position the plunger is preferable. No troublesome valves to get out of order. A real time and labor saver in lubricating service.

WEAVER Safety Service Can

For handling of gasoline and lubricants, the Weaver Service Can is a safe time and labor saver. Eliminates waste, too, because when the nozzle is screwed into the vent of the filler opening this can is absolutely spill-proof. No funnels are needed because the flexible metal hose easily reaches the hardest to-get-at gas tank and there's no danger from fire. A big help in any garage or service station.



Just say "Send Details" and we'll gladly send details. Got a Postcard handy. That'll do!

Weaver Mfg. Company
Springfield, Ill., U. S. A.

Weaver Canadian Company, Ltd.
Chatham, Ont.

VALVELESS BUCKET PUMP WEAVER SAFETY SERVICE CANS



Ask your Jobber's Salesman

...He's a WEAVER salesman too!



Christmas Door
Poster litho-
graphed in full
colors. Ask your
jobber



Full-page Advertise-
ment in December
12th issue of The
Saturday Evening
Post. Look for it and
paste it in your window



Why WEED Chain Sales will be bigger than ever this winter!

There are more cars to equip. Bus and truck chain business is rapidly developing. There'll be many cross chain renewals for last year's chains. The momentum of WEED popularity, gathered over a period of 20 years, will sweep WEEDS far ahead of all competitors. WEED sales have always led the field by a wide margin.

Special Christmas advertising and displays will keep WEEDS fresh in the minds of car owners. See that your jobber supplies you with the latest material. Get the beautiful Christmas Poster

shown above and paste it on your door.
It is lithographed in full colors.
Keep stocks up—you'll get the business.

AMERICAN CHAIN COMPANY, Inc.
Bridgeport, Connecticut

In Canada: Dominion Chain Co., Limited,
Niagara Falls, Ont.

District Sales Offices: Boston, Chicago, New York,
Philadelphia, Pittsburgh, San Francisco
World's Largest Manufacturers of Welded and Weldless Chain
for All Purposes

WEED CHAINS

"The most profitable of all accessories"

MOTOR AGE

Vol. XLVIII

Chicago, November 26, 1925

No. 22

Summary and Index of Important Events in

This Week's Automotive News

Detailed Stories from MOTOR AGE Staff Writers and Special Correspondents Appear in News Section Beginning on Page 32

PRODUCTION continues at high rate and stocks are gaining on dealers' floors, but situation is believed natural and not dangerous. Page 32.

A. E. A. opens "Show 'Em and Sell 'Em" campaign in New England states. Page 32.

Automobile finance conference reaffirms stand on ideal installment terms. Page 33.

Arrangements are begun for twenty-fifth annual automobile show in Detroit. Page 33.

Proposed tax reduction is taken by automotive authorities as encouraging sign. Believe Congress will repeal excises entirely. Page 39.

N. A. D. A. arranges details for Chicago convention during National Automobile Show. Program for New York meeting announced. Page 38.

Cliff Durant is building a new car to enter in Memorial Day race at Indianapolis. Page 42.

Little Rock holds second annual used car show, with large crowds in attendance. Page 42.

Used car market in Charlotte, N. C., is disturbed somewhat by low prices offered by finance companies on repossessed cars. Page 39.

India Tire & Rubber Co. reports net profit of \$27.50 a share on the common stock. Page 39.

Fisher Body is expending more than \$500,000 for additions to factory. Page 38.

St. Louis men purchase plant and business of Laurel Motors. Page 38.

Prices of tires as original equipment are raised again, this time from \$10 to \$125 on cars and trucks. Page 38.

Star plans production of 300,000 sixes and fours in 1926. Page 38.

Brilliant colors are principal features in New York Automobile Salon. Pages 34 and 35.

List of accessory exhibitors at New York and Chicago National Automobile Shows. Page 43.

Florida automobile dealers report phenomenal fall business. Page 43.

Schebler announces price reductions on Model S carbureter. Page 43.

New development in headlight engineering is shown and explained to Detroit section of S. A. E. Page 37.

General Motors sales in October gain over same month last year by 40,336 cars and trucks. Page 37.

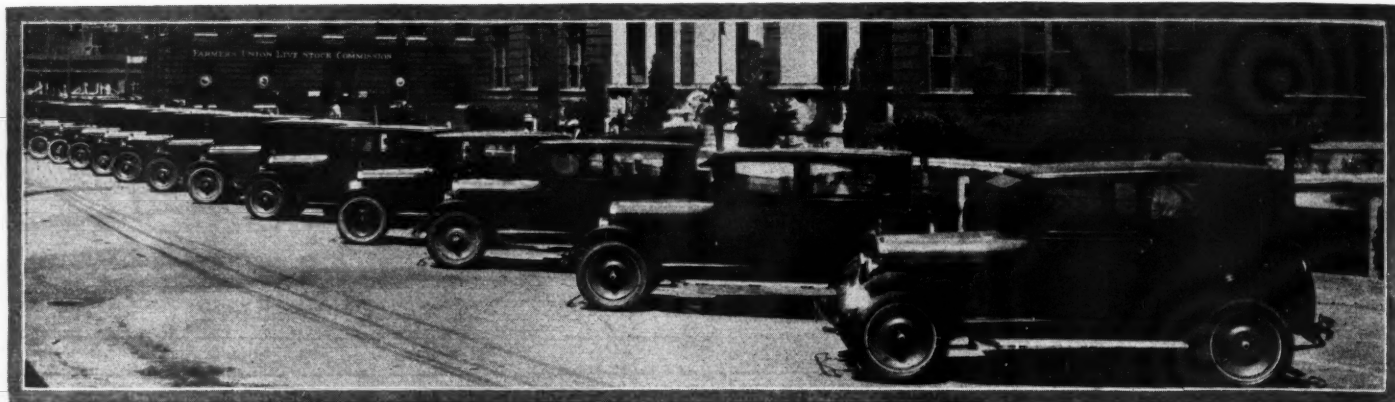
Paris decides to hold 1926 automobile show. Page 37.

Cadillac is spending \$3,000,000 in expansion of Detroit plants. Page 36.

Several personnel changes are announced in U. S. Automotive Division of the Department of Commerce. Page 36.

Registrations show trend of buying public toward established leaders in their classes. Page 36.

In Next Week's Issue—Two Pages of Christmas Window Photographs.



This nice line-up of new Oaklands was sold to individual buyers in one building by the Wolfley Automobile Co., St. Joseph, Mo.

Capitalize Your Plus Sales

*Satisfied Buyer Is Big Help to Salesman In Getting New Leads
—AND—a Big Help to Salesman's Competitors
if Opportunity Is Neglected*

BY CLARENCE PHILLIPS

IF the average automobile salesman could cash in on all sales of cars that really develop through the enthusiasm, favorable comment and influence otherwise of his satisfied owners there is one thing certain—

He would materially increase his commissions and have a much larger bank balance at the end of the year than he usually does.

Where he misses it is in the fact that most of the cars sold through the influence of his satisfied and enthusiastic owners—are sold by competing salesmen.

He hasn't been 100 per cent on the job.

The car he represents arouses initial buying interest which he fails in greater or lesser degree to capitalize, and into the arena romp competitors to take advantage of an opportunity which he has largely slighted or totally neglected.

Buying interest, to begin with, is a very fickle sort of thing. The fact that the buying interest in this instance originally centered about the make of car that our average salesman represented does not mean it was destined to stay put.

On the contrary buying interest often will shift with the frequency of the winds. What strikes the buyer as just what he wants right now may not make such a big hit with him a week or a month hence.

Leaving the Harvest for Others

There are many good automobiles on the market today and it is easy for the prospect to work up enthusiasm over a particular make—especially with the assistance of a clever salesman—and it often develops, as every salesman and dealer knows, that the car which the prospect first thought of buying is not the car at all he eventually purchases.

It is apparent, therefore, that a favorable selling atmosphere created by the boosting of an enthusiastic owner is something which only exists temporarily and that the salesman who would look here for additional commissions will have to work thoroughly and fast.

On the part of the man who makes his living by selling it is not good business to plant the seed and leave most of the field's cultivation to the other fellow—along with the big part of the harvest. Yet that is exactly what the automobile salesman does when he fails aggressively to follow the trail of the enthusiastic owner's selling influence.

That is assuredly what he does when he sells a car to a pleased buyer and then forgets all about him, as frequently is the case. When the salesman has a tough time delivering a car, due to the fussiness or argumentative nature of the buyer, his usual weakness is to avoid the buyer as much as possible on future occasions—which is a grave mistake.

In the first place if the buyer develops into a satisfied owner the salesman certainly wants to keep him in line for future business.

And again—it is a fairly safe bet that a buyer of that character will talk in a loud voice about the virtues of his automobile. He is the kind that speaks out in meeting and the kind it pays to follow up.

Underestimating the Opportunity

The complaint against the average salesman in this connection is not that he does not KNOW he should follow up one sale for further leads which the first sale might possibly develop, but rather, that ordinarily he does not follow up with sufficient system and intensity.

While he realizes very well that there is a certain future-business possibility in the enthusiastic owner's influence he under-estimates the opportunity that the situation is capable of actually producing.

Were that not a fact he would spend more time and effort cultivating the ground about the initial sale—which was "plus."

A "plus" sale is one which opens possible avenues for further profits and commissions.

When the buyer of your automobile likes it well enough to talk about it favorably to others he has been sold

Sold 68 Cars in Same Neighborhood

It was super-service and intense cultivation of the field that enabled the Holzmark Motor Company, 826-28 Minnesota Avenue, Kansas City, Kans., to place 68 Overlands within three city blocks of their town. Their service was not only the talk of their customers but they made it the talk of the town by advertising it in the newspapers and by direct mail. The good will which was won among their owners was utilized by securing lists of prospects from them and vigorous campaigning among these prospects secured the sales. Their super-service was rendered possible by the use of a card index system which with its "flags" told the managers just when to get in touch with the customers again, and this was done by 'phone, post-card, letter or personal visit, as the case seemed to demand



The satisfaction and enthusiasm of each new purchaser helped sell others until a score of cars was delivered. Left: Joseph E. Holzmark of Holzmark Motor Co., Kansas City, Kans., who kept service at such a high point that car owners helped him sell cars to their friends. Right: Irwin Holzmark, of the same organization, who hustled after prospects in work which sold 68 Overlands in three city blocks.

"plus," without a doubt. Factories and large dealers today are thinking more of the value of "owner satisfaction" than ever before. They are going to greater lengths than ever before to capitalize it wherever possible.

The manufacturer of any article wants nothing better than buyer satisfaction, for when the buyers are satisfied they compose the most powerful selling agency it is possible to place behind a company's merchandising efforts. Once winning this the manufacturer knows he is delivering goods which the public really appreciates and wants and he knows that the future prosperity of his company is fully assured.

It is the business of the salesman to seek out the individual case of owner satisfaction and follow its lines of influence for leads to further sales.

The value of capitalizing the favorable impression of one sale in the development of others was emphasized recently in a merchandising effort by the Wolfley Automobile Company, Oakland dealers, in St. Joseph, Mo. The experience of this company will serve to illustrate the point.

Within a period of ninety days this company sold 20 Oakland closed cars in one of St. Joseph's office buildings. And each sale was made to an individual buyer. It was not a fleet deal.

As the story has been told, the first single sale was made to W. C. Fuller, of Swift & Company, which has quarters in the St. Joseph Stock Exchange Building. Mr.

Fuller liked his buy and others in the building with whom he came in contact naturally were attracted by his new Oakland as well as by his enthusiastic comment.

Beginning with the capitalization of interest created by the sale of this one car Wolfley salesmen perserveringly "followed up," selling one car after another and taking advantage of the new boosting from each added buyer until a full score of Oaklands had been delivered to persons having business quarters in that one building.

It is easy to imagine the buying psychology that operated in the Live Stock Building during the period of this interesting merchandising effort. To obtain new leads the salesman only had to camp in the building from time to time, ask questions and take notes. The new Oakland buyer, proud of his car and not hesitating to tell others about it, in addition to the appearance of his car parked near the building where acquaintances could see it—created an atmosphere highly favorable to further business for the salesman.

Providing—he watched his business and cultivated the soil.

It so happened in this instance that the salesmen did not neglect the opportunity and they cashed in handsomely for their efforts.

But on the other hand, just as a speculation, let us suppose these salesmen went after the situation in another manner. Suppose that after selling the Oakland car to Mr. Fuller they thanked him kindly for his patronage

and, as salesmen sometimes do, made no special effort to hunt him up again soon thereafter and comb over his realm of influence for new leads.

The result would have been—ONE sale—and our story about the Wolfley feat would not have been told.

Bets of this sort are missed every day by automobile salesmen, not necessarily in office buildings but wherever they have delivered cars to satisfied or enthusiastic buyers. It is really not entirely necessary to the salesman's interest for the owner to *talk* much about his car. Its exhibition in the presence of friends and neighbors helps develop a favorable atmosphere for follow-up selling.

Others see the car and admire it, the salesman pays them a timely visit, they talked to the initial buyer and find he is highly pleased—and they are ripe for a direct purchase.

It is a peculiarity of the human being anyhow to want the thing another has—or something like it. And it is a human trait when one has made a purchase, regardless of how much the salesman was fought and resisted, to want others to know the buy was a good one. Two forces, therefore, are at work in the interest of the salesman. That is, they are at work for him if he will stay on the job and not leave the opportunity for competitors to seize upon.

Our discussion touches on a phase of psychology that a subdivision salesman who has been highly successful in his line accepts as one of the first fundamentals of success in his activities. With him one sale of a lot is more than one sale—it is the open door to other possible selling opportunities. And as such he always deals with it.

In one week recently he sold subdivision lots to 18 individual buyers in a large business house whose outer guard he was fortunate through some hook or crook in passing.

Following his customary formula he capitalized the influence of each buyer to obtain additional leads.

He knew his buyers would be pretty apt to tell their friends of their investments and that some of these friends possibly would be interested in the lots, themselves. While all buyers did not always develop new leads the salesman found that persistently following up sales for new

leads made lead-getting much more easier than had he left that area of effort for new fields.

This man's company furnishes its salesmen with leads obtained through advertising and otherwise but he uses fewer of the company's leads than any other member of its large selling organization.

He thinks much more of the leads developed through the influence and assistance of persons to whom he has already sold lots.

That the salesman's idea is sound cannot be denied. Prospects unearthed by his plan not only have been giving thought to his proposition already but there's a chance

in each case that they already have been partially sold on the proposition by one of the earlier buyers. The scheme permits him to work under conditions where sales resistance is relatively low.

This is a plan which the automobile salesman can put to profitable use in his own operations. It is much the plan followed by Holzmark Brothers, Overland dealers in Kansas City, Kans., when they placed a total of 68 Overland cars within an area of three blocks. This result speaks sufficiently for its merit.

Many automobile salesmen are constantly permitting commissions to slip through their fingers and go into the pockets of competitors simply because they do not give enough attention to cultivation of opportunities growing out of the satisfied owners' favorable comment and influence in other respects.

It is not necessary to operate exclusively in office buildings or large business institutions in order to profit by this method of follow-up.

Every car sold to a satisfied customer opens the door of opportunity, for every buyer has friends, relatives and neighbors who might be favorably influenced by his boosting.

In fact, there is such a follow-up opportunity for the salesman when an individual buys an automobile of any make in the salesman's competitive class.

Even though a competitor did make the sale it is not impossible that the salesman who delivered that car will sleep at the switch and leave cultivation of the field for further business—to the other fellows.

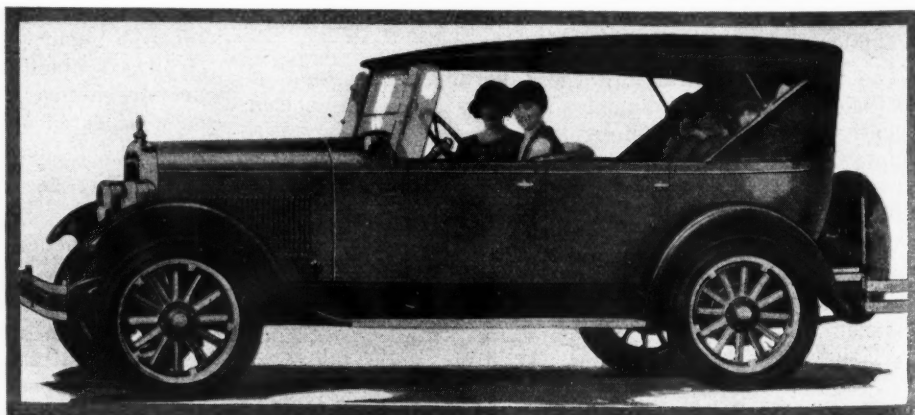
You and Holzmark Service

Here's one way YOU can accelerate our common good--YOURS and ours. Think real hard until you can recall some friends or acquaintances who intend to buy a car--or at least, who SHOULD buy a car. List them on the lower part of this card. You DO know someone--we all do. We're going "over the top" with October sales. May we depend on YOU? Thanks!

HOLZMARK MOTOR COMPANY
Drexel 0519 826-28 Minnesota Avenue

Satisfied customers furnished leads which resulted in sales for the Holzmark Motor Co., of Kansas City, Kans. This card helped provide many names for the prospect list

The Cleveland Automobile Company has recently added a touring DeLuxe model listing at \$1025. Finish is in two-tone sagebrush green Duco and upholstery is Spanish leather. The model comes complete with windshield wings, rear view mirror, windshield cleaner, nickel radiator shell, bar cap and motometer, front double bar bumper, rear bumperettes, trunk rack, body bars and trunk guarded by a lock.





Play important roles in N. S. P. A. exhibit and convention (1) J. G. Winterfeldt, show manager and a new director. He is president of the Wel-Ever Chicago Sales Co. (2) A. T. Haugh, retiring president, who presided over general convention sessions. He is vice president of the King Mfg. Corp., Buffalo, N. Y. (3) W. D. Patterson, retiring vice president, who has been to the fore in all activities since the association was first launched. He is head of Patterson Parts, Inc., San Francisco. (4) C. B. Fraser, association secretary, and one to whom a large part of the credit for the success of the show and convention is due

Maintenance Is Great Theme of N. S. P. A.'s First Annual Show

Replacement Parts Have Big Inning When Chicago Attraction Brings Manufacturers And Many Jobbers Together

THE first annual exhibit of the National Standard Parts Association, held in connection with this organizations' convention at Hotel Sherman, Chicago, November 16, 17 and 18, presented a comprehensive and colorful display of units familiar to the replacement parts division of the industry. It was strictly a parts show to the extent of about 90 per cent of the display, an interesting and impressive collection of those items that must be supplied to the motoring public if the cars sold by dealers are to be kept on the road and in good running condition. Maintenance tools, which the association holds are essentially in the parts field, were also displayed.

Consequently this show was one related directly to the maintenance end of the trade's business and it was such an exhibit that the especially privileged shop man would have enjoyed inspecting. What there was "new" in the exhibition booths represented largely recent specification changes of the car manufacturers.

Keep Step with Car Makers

Study of these different replacement units offered the suggestion that the replacement parts manufacturer has not been slow to keep step with the changes in car design. Keeping up with the procession is vital to the replacement parts industry and consequently the change in specifications of the part coming originally with the 1926 car was swiftly followed by corresponding changes in the product of the replacement part manufacturer.

Although it required close inspection to find the "new" in many of these products on display, the "new" was there in samples of units that are ready for service in 1926 car models as replacements are needed by owners,

in addition to some products that are "new" on the list of the exhibitors.

There were 94 exhibitors in the show and it was staged in the commodious Exhibition Hall of Hotel Sherman, the two divisions of this part of the hotel being necessary to house all the attractions. The space available was filled but not uncomfortably, and a large number of eleventh-hour applications were turned down. With the very favorable start of the show as an annual feature members of the association were in a highly optimistic mood and it was freely predicted that the exhibit to be held one year hence will take in a considerably larger list of companies.

Good Business Show

From a "business" standpoint the show seemed to be very gratifying to those who participated. This does not mean there was a deluge of orders, for relatively little actually spot business is written at any such exhibition. But factory representatives have learned how to recognize and appraise contacts and the opportunity in this connection was wide while a number of exhibitors interviewed said the amount of actual business done on the floor far exceeded expectations. All in all the National Standard Parts Association's first annual show passed into history as an entirely satisfactory and successful event.

On the following pages MOTOR AGE presents the impression of an observer who made the round of the exhibits analytically. What he found and what he has written will give a more detailed picture of what the buyer, who in this instance was the jobber, found there.

Maintenance Is Great Theme of

THE transmission of power without slippage is one of the achievements of this age that is accepted as a matter of course, but behind the spur or bevel gear is much engineering that makes it possible for our cars to be driven silently and powerfully. Not only in design where the spiral bevel leads the gear family but also in the field of materials we find new substances developed to co-ordinate with the gears of steel, while in various applications, notably in timing valves and ignition we find the drive accomplished by means of chains of various design.

Among the exhibitors of gears, were the Warner Gear Co. of Muncie, Ind., the Indianapolis Tool and Mfg. Co. of Indianapolis, Ind., the Automotive Gear Works of Richmond, Ind., the Republic Gear Co. of Detroit, Mich., and the Western Gear Co. of Detroit, Mich. In the field of composition gears of materials other than steel we find exhibited the products of Dalton and Balch, Inc., Chicago, Ill., the Timing Gears Corporation, Chicago, and Ralph N. Brodie Co. also of Chicago. These last named concerns also make silent timing chains, another well known concern in this field being The Whitney Mfg. Co. of Hartford, Conn. The flywheel starter gear branch of the gear family was represented by the Accurate Gear Co. of Springfield, Ohio, specialists in the making of this type, while the Ralph N. Brodie Co., previously mentioned also make flywheel starter gears.

In unexpected places we find the tendency of radio to invade the automotive field, the products of the Timing Gears Corp. including a ball and socket mounting for aerial masts as well as the more conventional line of gears and chains.

PISTON RINGS, PINS, INNER RINGS

Some idea of the volume of engine maintenance work needed by the eighteen million cars in operation is obtained by a survey of the exhibits which display pistons, rings and pins, and as stocks of standard and oversize parts become more and more available to the small town garage and country shop, the lot of the wayside repairman will be made lighter.

Pistons were displayed by the Cleveland Piston and Mfg. Co. of Cleveland, Ohio, with their line of Lynite pistons, a cast iron piston also being made by this concern. Houpert Machine Co. of Long Island City, N. Y., exhibited cast iron pistons, as did W. H. Jahns, Inc. of Los Angeles, Cal., the Accuralite Co. of Muskegon, Mich., the Gill Mfg. Co. of Chicago, Dall Motor Parts Co. of Cleveland, Ohio, Swartz Mfg. Co. of Freeport, Ill., and Spencer Smith Machine Co. of Howell, Mich. Lynite Ohio pistons were exhibited by the Ohio Piston Co. of Cleveland while the Kant Skore Piston Co. of Cincinnati, Ohio, showed its line of pistons as well as those of the Permite Piston Co., the latter also being an alloy type of pistons, but of different design.

J. G. Winterfeldt, president of the Wel-Ever Chicago Sales Company, is the man who managed details of the big job of staging the National Standard Parts Association's first annual exhibit.

What the membership thought of his success in the capacity of show manager was reflected in two tributes to Mr. Winterfeldt during the convention. For one thing he was elected to a position on the board of directors, while, again, at the banquet he was presented with a bale of \$1 bills which someone had quietly gathered from the delegates. It was whispered that there was between 250 and 300 such items of currency in the roll.

Pistons rings and pins are also included in the line of the Gill Mfg. Co., while the Swartz Mfg. Co. showed piston pins, in addition to its piston display.

Piston rings were presented to the trade by the Burd High Compression Ring Co. of Rockford, Ill., this concern also handling the Burd Gilman shock absorber, a steel cable rebound checking device especially recommended for use with balloon tires. Other piston ring displays were those of the Wel-Ever Piston Ring Co. of Toledo, Ohio, the Pennsylvania Piston Ring Co. of Cleveland and the American Hammered Piston Ring Co. of Baltimore, Md.

Piston Pins were shown by the Elgin Machine Works of Elgin, Illinois, and the Burgess Norton Mfg. Co. of Geneva, Ill., while inner rings were exhibited by the G-H Tension Ring Co., Inc., of Baltimore, Md., the Parts Mfg. Co. of Cleveland, the Smalley Accessories Corp. of Chicago and the Cleveland Inner Ring Co. of Cleveland, the latter concern and the G-H Tension Ring Co. also having a line of piston pin retaining springs.

King Quality Products, Inc. had a novel display which included not only their own line of piston pins, piston pin set screws, shackle bolts and bushings, but also displayed many other items, the whole layout representing a model parts store, with various types of parts systematically arranged in their proper classification and for ease in handling. On the counter were various small items such as shims, as well as cash register and sales slip machine, while at one side was represented office space and desk facilities for the manager.

BEARINGS AND BUSHINGS

"What's the cause of a knock after thoroughly overhauling an engine?", mechanics sometimes want to know, and the answer is that the job was not thoroughly done. Something was passed up as being O.K., a worn bearing that does not fit was roughly tightened instead of being replaced or bushings which looked good were taken at their face value. Bushings and bearings for the wide variety of cars which come into the service station are made by a number of concerns, the exhibits which showed bronze bushings and other parts of brass and bronze being those of the Johnson Bronze Co. of New Castle, Pa., the Twentieth Century Brass Works of Minneapolis, Minn., and the National Bushing and Parts Co., also of Minneapolis. Bearings were shown by the Milwaukee Die Casting Co. of Milwaukee, Wis., and the U. S. Bearing Co., Inc., of Indianapolis, Ind. Both bushings and bearings were included in the exhibits of the Federal Mogul Corp. of Detroit and the Buckeye Brass and Mfg. Co. of Cleveland.

Ball and Roller Bearings

In maintenance work attention is not always paid to the condition of bearings and poor operation after the job is finished is often the result. In overhauling a transmission or axle for example, the gears may be replaced if the teeth show signs of wear and yet this may not insure perfect operation if the balls or rollers of the bearings are pitted and the races worn. Excessive clearance in the bearings means that the gears can not be kept in line. Under certain conditions of load they may be satisfactory and howl under other conditions.

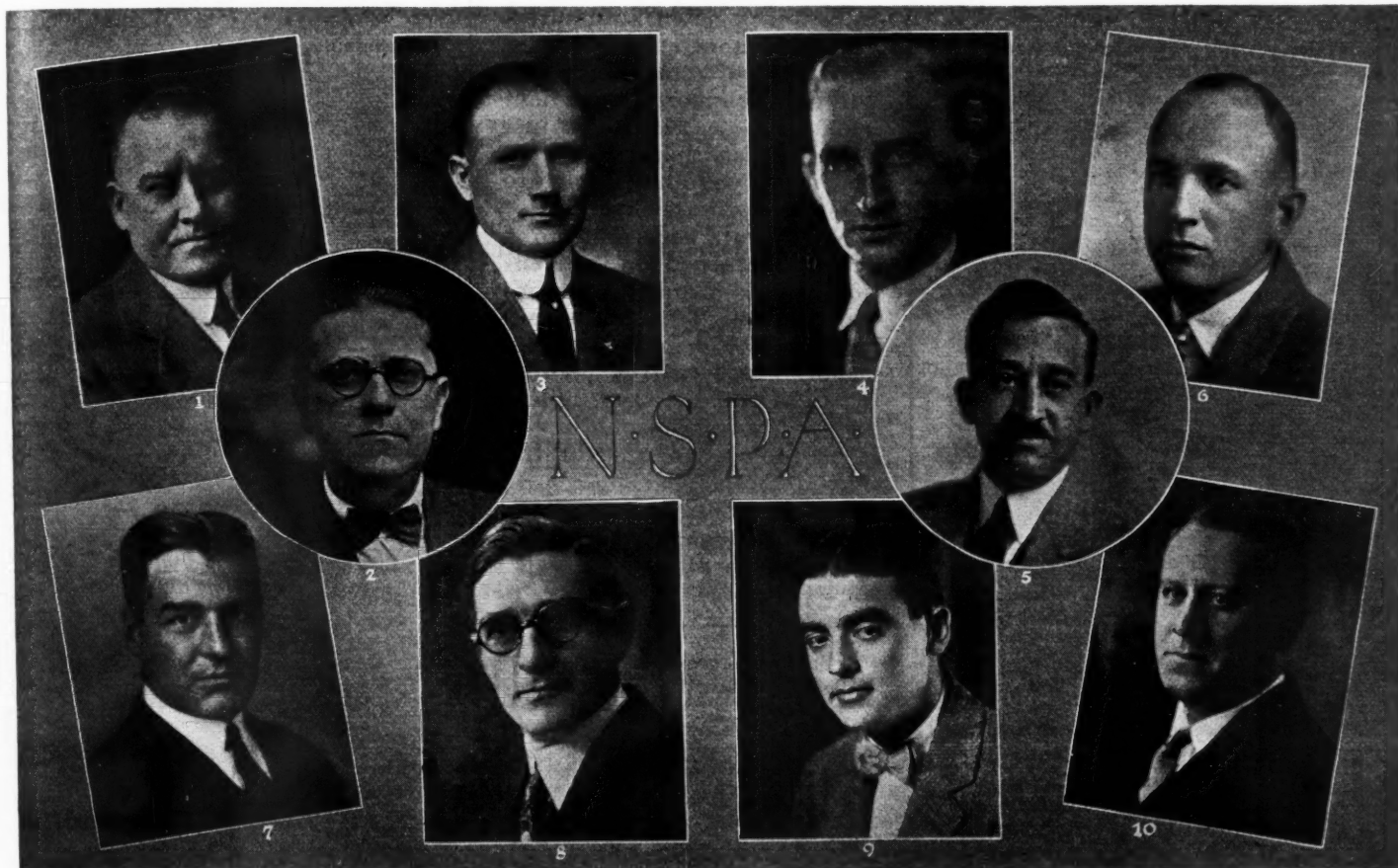
An appreciation of these facts as well as adequate service stocks should assist the shop to render the best possible service. Ball bearings were shown at the booths of The Fafnir Ball Bearing Co. of New Britain, Conn., and Standard Steel and Bearings, Inc., of Plainville, Conn., while roller bearings were displayed by The Bock Bearing Co. of Toledo and the Orange Bearing Co. of Orange, N. J.

STEEL MACHINE PARTS

Valves, tappets, bolts, nuts, shafts and universal parts

Pistons, bearings and gears are essential items in the overhaul of the car, but there are miscellaneous other items that are also important, the lack of which will make it impossible to do a complete job. Valves for example need replacement from time to time, these being exhibited by Thompson Products, Inc., of Cleveland and Mackay and Austin Inc. of Oakland Cal. Valve cages, guides and similar machined parts were included in the line presented by the G-H Manufacturing Co. of Baltimore, Md., the Fostoria Screw Co. of Fostoria, Ohio, the James Motor Valve Co. of Detroit and the Star Products and Machine Co. of Cleveland.

N. S. P. A.'s First Annual Show



Pioneer directors of N. S. P. A. who took important parts in first year's activities (1) Walter T. Mills, president Auto Parts Co., St. Louis, Mo., (2) E. E. Main, president U. S. Bearings Co., Inc., Indianapolis, Ind., (3) Robert M. Schnore, president Southern Bearings & Parts Co., Atlanta, Ga., (4) V. W. Olson, secretary Automotive Service Co., St. Paul, Minn., (5) T. R. Walton, sales manager James Motor Valve Co., Detroit, Mich., (7) W. C. Stettinius, president American Hammered Piston Ring Co., Baltimore, Md., (8) C. J. Peterson, president P-D Auto Parts, Inc., Meriden, Conn., (9) Sim T. Mee, president Mee-Oaks Co., Oklahoma City, Okla., (10) W. M. Albaugh, president Thompson products, Inc., Cleveland, O.

In the booth of the Parts Manufacturing Co., were connecting rod bolts and nuts, these being packed in individual cartons for ease of handling.

A complete line of axle shafts is offered to the trade by the Lake Erie Metal Products Co., these being made of heat treated manganese alloy or chrome nickel alloy steel while a line of smaller parts for servicing Hartford and Spicer Universals is offered by the New England Auto Products Corp. of New Haven Conn.

The Almetal Universal Joint Co. of Cleveland displayed drive shafts and universal joints, their products also including a complete line of flanges and bearing hangers.

Brake lining, clutch facing, rivets etc.

Friction materials are as much needed in their right place as are the anti-friction bearings, where freedom of motion is desired. Brake lining and clutch facing are used in considerable quantities wherever a shop specializes on thorough overhauling. The exhibit of the United States Asbestos Co. of New York City included clutch facings and brake lining, also water pump rings for making the water pump leak proof, other items

being asbestos wicking and sheet packing. The products of the Keasbey and Mattison Co. of Amber, Pa., are also chiefly brake lining and clutch facings.

The G-H Mfg. Co., previously mentioned has a product in the above classification, a line of clutch plates, lined and ready to use, new items in this line including plates for Buick, Cadillac, Fuller, Overland and Willys-Knight clutches.

Rivets and brake band tools were shown by the Penn Rivet Corp. of Philadelphia, a demonstration machine being in operation, showing the time saving and hence the profit making possibilities of the right sort of equipment.

TOOLS

One of the displays where machinery was running, was that of the Van Norman Machine Tool Co. of Springfield, Mass., where a piston was being brought down to finish size as would be done in the automotive shop, the Van Norman display including a large piston grinder, a small piston grinder, a valve grinder and a number of smaller items.

The Scully Steel and Iron Co. of Chicago had a display of reamers of the expansion type, one adjustment advanc-

ing blades up a ground runway, the return being effected by a stiff spring. A tapered bushing for aligning the reamer when reaming piston bushings insures accurate work. A line of socket wrenches including a variety of assortments was shown by the Packer Auto Specialty Co. of Chicago.

ELECTRICAL

An interesting coil, the product of The Mallory Electric Corporation of Toledo, Ohio, was displayed in connection with a device for measuring the current in the spark. The coil in question uses an iron circuit which is nearly closed and makes for great efficiency. The testing device is a milliammeter which is connected in series with the wire leading from the coil to the center of the distributor. In this way the repairman can make a comparative check on various coils to determine which one gives the hottest spark.

MISCELLANEOUS ITEMS

A counter balanced crankshaft for Fords was shown by J. Wadsworth Staff of Chicago, this shaft weighing 8½ pounds and selling for \$19, the model,

drilled for force feed oiling selling for \$25.

Another item for Fords is the Gould double reduction axle made by the Gould Detroit Axle Co. of Detroit, Mich. This replaces the left half of the regular Ford axle and gives four speeds forward and two in reverse.

Products of the Holfast Rubber Co. of Atlanta, Ga., include endless fan belts, for all cars, tube patching kits, top patching kits and an endless flap for clincher rims, the latter being a new item, intended for use on rims such as Fords where the formation of rust on the rim eventually produces punctures where the tube chafes through on the sharp particles of rust.

Another concern making a complete line of fan belts is the Hide Leather and Belting Co., of Indianapolis, Ind.

Gaskets, a complete line of 'em, was shown by National Cork Products, Inc., of Newark, N. J., and the Felt Products Mfg. Co. of Chicago, these being available in various assortments to suit the needs of various localities and service stations.

The Cleveland Piston and Mfg. Co., previously mentioned, also have an aluminum welding rod which is said to make it

N. S. P. A. to Restrict Show Attendance

Rules relating to exhibition by non-member manufacturers and attendance at the show of non-member manufacturers will be much more severe next year than at the show just held. Rules this year while restrictive were not carried to the point of exclusiveness.

Next year, according to a decision reached in convention, no non-member manufacturer will be permitted to exhibit and no non-member manufacturer will be permitted to attend the show unless his application, unacted upon, is on file at the time of the show.

In 1926, therefore, the N. S. P. A. will stage what is popularly spoken of as a "closed" show.

possible to weld aluminum parts without preheating or danger of warping. The sample kit sells for \$5.00.

Another product of the G-H Mfg. Co. is an assortment of brake springs for use in overhauling the brakes on the most popular cars.

In presenting the various products handled to automotive dealers, the jobber's salesman finds it necessary to carry quite an array of circulars, catalogues and descriptions of the items he sells and this necessitates some sort of carrying case. The Kalamazoo Loose Leaf Binder Co. specialize in leather goods for this purpose, their assortment meeting practically any requirement.

A ten leaf front spring for Ford cars is made by the Detroit Steel Products Co. of Detroit, a product recommended for use with the spring being a clamp plate design to be used with the regular Ford clip and capable of taking either nine or ten leaf springs.

The United States Chain and Forging Co. of Pittsburgh, makers of bumpers and tire chains exhibited a number of wheels with tires in which its various chains were shown.

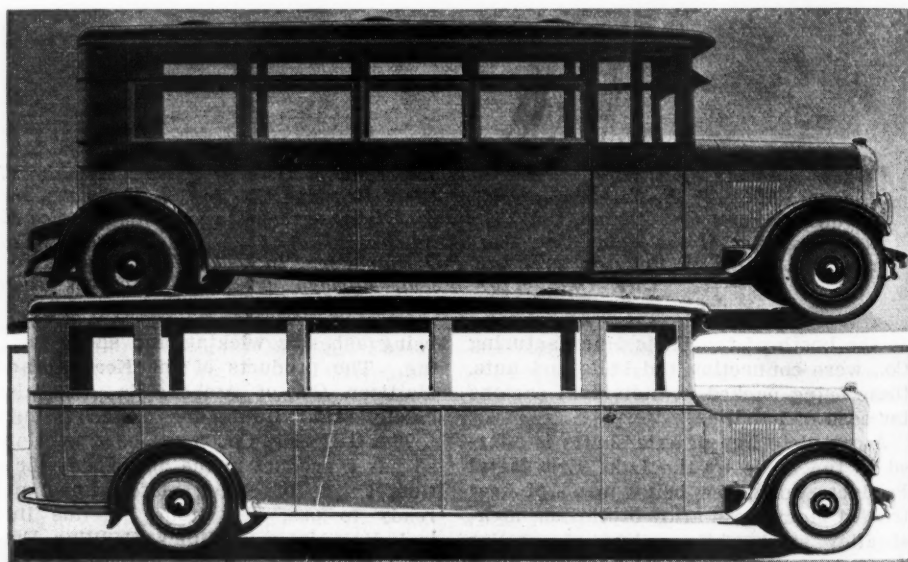
Two Additions Made to Yellow Coach Line

TWO additions have recently been made to the line manufactured by the Yellow Coach Manufacturing Co., Chicago, Ill. These are designated as the "X" 21-Passenger Pay-Enter Coach, and the "X" 17-21-Passenger Parlor Coach. The Type "X" Pay-Enter Coach is designed for city service and short interurban runs. The Type "X" Parlor Coach is built specially for inter-city transportation. The same chassis is used for both coaches, with suitable rear axle ratio to meet operating conditions.

The Type X-21 Pay-Enter Coach has eight double seats, four on each side and a cross-seat at the rear seating five. All seats are upholstered in genuine brown leather. Their arrangement permits all passengers to face forward. As there is no overhang to the body, the wheel housings come under the last cross-seat and do not interfere with the regular seating layout. The Type X-17-21 Parlor Coach has four rows of de luxe type double wicker chairs on the left side and four rows of single chairs on the right, all facing forward. Seat-back cushions and arm-rests are all upholstered in genuine brown leather. A cross-seat in rear accommodates four passengers and there is a hinged observation seat alongside the driver. Emergency seats in the baggage compartment accommodate four additional passengers. In both the pay-enter and the parlor coach, a buzzer-cord for signalling operator is located on each side of coach above windows.

BUILDING STORAGE GARAGES

A 16 page booklet entitled, "Building Garages for Profitable Operation," has been published by the Ramp Buildings



New 17-21 passenger Yellow coaches recently added. At the top is the 21 passenger Pay-Enter coach and below the 17-21 passenger Parlor Coach

Corporation, 21 East 40th Street, New York City for general distribution. This booklet is devoted especially to the Ramp type of storage garage in which this company is interested. It takes up the subjects of location, design and business management, and gives several detailed examples of the earning power of various sized garages in cities of from 50,000 to 1,000,000 population. It is illustrated with photographs of successful storage garages and contains much information of value to prospective builders of garages.

ELECTRICAL TESTING AND REPAIRING INSTRUCTIONS

Users of Weidenhoff test benches and other equipment are supplied with very carefully compiled instructions. A copy of these instructions was recently sent to MOTOR AGE and it appeared to be so interesting that we inquired to know whether other copies were available. We were informed that this is the case and MOTOR AGE readers can obtain a set of these instructions by writing to Joseph Weidenhoff Company, 4352 W. Roosevelt Rd., Chicago, Ill.

E. P. Chalfant to Be Chief Force in Parts Association



E. P. Chalfant

CHICAGO, Nov. 20. FOLLOWING were high spots of the convention of the National Standard Parts Association which was held at Hotel Sherman, Chicago, Nov. 16, 17 and 18, in connection with the association's first annual show:

Election as president of Charles W. Moffett, of Barney's Auto Parts Co., Inc., New York City.

Amendment of constitution to provide for the appointive office of executive vice president and the appointment to this office by the board of E. P. Chalfant, president of the Motor and Accessory Manufacturers' Association and an outstanding figure in the industry. He is to assume duties Jan. 1.

Adoption of a resolution to the effect that exhibition in next year's show shall be entirely "closed" to the participation of non-members.

Adoption of a resolution to the effect that no non-member manufacturer shall be privileged to attend the show unless his application for membership, unacted upon, is on file at the time of the show.

Adoption of a resolution on "obsolescence" similar to that adopted July 31, by the Merchandising Committee and Board of Directors.

Adoption of the same "cataloging" resolution that was adopted by the Merchandising Committee and Board last July.

Mr. Moffett, the new president, succeeded A. T. Haugh, vice president of King

Convention Names M. and A. M. A. Head Its High Commissioner — Moffett Elected President—Door of Next Show Closed Entirely on Outside Manufacturers.

Manufacturing Corporation, Buffalo, N. Y., represents a jobbing organization. He has been an active member of the association, having been one of the organizers. Besides being in the jobbing field he was formerly on the manufacturers' side of the association as the representative of Warren Gear Products Co., Warren, Pa. Backed up by this wide vision of the replacement parts industry it was pointed out that Mr. Moffett was excellently fitted to shoulder the executive leadership.

Chalfant Given Free Hand

Active direction of the association's affairs and the campaign for its upbuilding will be in charge of Mr. Chalfant who is given liberal powers and a free hand in this work. Preceding the action which created the office of executive vice president, in addition to a secretary, speakers declared the organization required a leader who would be not only a directing executive, but a "Landis." The selection of Mr. Chalfant seems to have been the answer to this plea.

W. M. Albaugh was elected vice president. He is president of Thompson products, Inc., of Cleveland, Ohio.

New directors from the manufacturers' side elected by the convention were W. C. Stettinius, president of the American Hammered Piston Ring Co., Baltimore, Md., W. M. Albaugh, president Thompson Products, Inc., Cleveland, O., W. M. Smith, Spencer-Smith Machine Co., Howell, Mich., and D. W. Rodger, Federal Mogul Corp., Detroit.

From the jobbers' side new directors elected were Mr. Moffett, later named president, and J. G. Winterfeldt, president of the Wel-Ever Chicago Sales Company.

There are six holdover directors.

In addition to agreeing upon a new plan for the designation of jobbers who will be invited to next year's show it was decided again to interlock the show and convention, with compulsory attendance rules prevailing.

Future location of the association's national headquarters, now temporarily in Detroit, was another matter brought into discussion with the eventual vote to leave this decision to Mr. Chalfant, the executive vice president. Feeling was ex-



C. W. Moffett

pressed that headquarters should be established in Chicago.

One of the features of the opening general session was a report by Field Secretary L. H. Bennett of an investigation of the General Motors parts merchandising plan in Canada.

A banquet was held Tuesday night at which time Mr. Chalfant's appointment was announced.

With respect to the resolution on the subject of "obsolescence" there was the following important clause:

That "the responsibility for determining what parts are to be considered obsolete, and when they are to be first so designated, as well as the financial responsibility which may attach to such determination, lies with the manufacturer, since it can only be based on the intelligent analysis of national sales figures. The items in each line should be grouped according to sales volume and at suitable intervals declaration of obsolescence issued, after which the parts affected will be manufactured only as specials, the manufacturer to be the clearing house for obtaining them, and the list price to be in proportion to the service rendered."

The chief activity in the cataloging program will be the compilation of a master list of specifications which list is to be used by jobbers in compiling their catalogs. The plan will make possible more composite cataloging, with the elimination of much duplication necessary at present.

Tire Dealers Favor Fewer Sizes As



Herbert A. Ruhnke, President National Tire Dealers Association

THE sixth annual convention of the National Tire Dealers Association held at Hotel Chase, St. Louis, Nov. 17, 18 and 19, was said by members of that organization to have been the most successful ever held, in point of attendance and in point of accomplishments. The tire dealers went on record as favoring many plans which are expected to strengthen their organization and help to put their industry on a higher plane. Between four and five hundred dealers attended.

Herbert A. Ruhnke of Milwaukee was chosen president for 1926; H. V. Eva, of Duluth, Minn., vice president, and George J. Burger, of New York, the retiring president, was named secretary and treasurer.

A change in the by-laws provided for a board of directors to be composed of the three officers of N. T. D. A. and six directors to be elected. It was explained that this method would always provide a more experienced board. For instance there was but one member held over from the 1925 board. He is Art Roderick of Akron, Ohio. He has one more year to serve.

To fill the other vacancies on the board, F. P. Harper, Ft. Smith, Ark., was elected to serve for one year. A. M. O'Leary, Chicago, and Victor Shaw, Charlotte, N. C., were elected for two years and A. L. Glick, Pittsburg and A. P. Woehrle, St. Louis, were elected for three years.

It was decided that the 1926 convention would be held in Memphis, Tenn., opening on the third Tuesday in November.

The adoption of a plan to finance the 1926 program of N. T. D. A., providing a minimum fund of \$5,000, was considered the most important step taken at the meeting. Members were solicited to donate \$100 each toward this chest and the amount was subscribed in a short time. However, there is no limit to the amount which may be subscribed and those members who did not attend

National Association in Convention at St. Louis Hears Department of Commerce Survey of Retail Tire Trade Analyzed.

the convention or who did not subscribe will have an opportunity to do so.

It is expected that N. T. D. A. will engage the services of a manager to devote his entire time to the building up of the organization and to the encouragement of state and local associations. Also it is planned to publish an official magazine to disseminate news of the organization.

That tire dealers favor the simplification of sizes of tires was shown by a resolution which was adopted expressing appreciation for the efforts of the U. S. Department of Commerce in behalf of tire dealers and thanking R. M. Hudson, chief of the Bureau of Simplification, and R. L. Palmerton, chief of the Rubber Division, of the Department of Commerce, for their addresses to the convention. Mr. Hudson's address concerned the simplification and standardization of sizes and types of tires and Mr. Palmerton discussed a survey of the dealers' tire stocks.

Mr. Hudson distributed to the tire men copies of his report on fewer tire sizes, prepared November 1, and then discussed some of the advantages of simplification in the varieties and sizes of tires. He showed how simplification increases the merchant's turnover, affording complete coverage of the market with smaller investment in stock. A digest of this report is published on the next page.

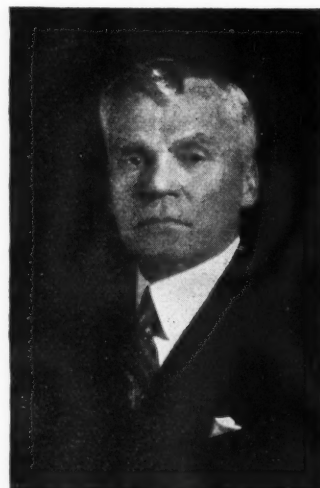
Interesting facts about the makeup of the retail tire trade were given by Mr. Palmerton as a result of his analysis of the survey made by his division of the Department of Commerce October 1.

Resolutions Adopted

At Thursday's session resolutions were adopted opposing the practice of manufacturers in printing and distributing suggestions as to retail selling prices.

Tire manufacturers and dealers, in another resolution, were urged to refrain from selling so-called automobile clubs and co-operative buying associations who re-sell such merchandise to their members, and likewise all so-called mileage contracts and rental service agreements were condemned as being detrimental to the interests of dealers.

A question which has been the cause of much conflict between tire manufacturers and dealers, the right of the manufacturer to retain for himself as a "national" such accounts as the large fleet owner, was attacked in a resolution which stated; "That we protest and op-



H. V. Eva, Vice-President National Tire Dealers' Association

pose in principle, the practice on the part of the manufacturer in selling direct to the consumer, be it the so-called national or commercial account."

Another alleged practice of manufacturers which drew the fire of the dealers was of setting up factory employes in retail businesses, the capital of such an establishment, or part of it, being furnished by the manufacturer.

Also the practice of manufacturers rebating to dealers 10 per cent on sales made by the manufacturers to certain select customers at the dealers' cost price was condemned.

Herbert Ruhnke, the newly elected president, stated in his opening address that he had not prepared a program of action for the coming year, but said he would work in harmony with the board of directors for the best interests of the tire dealer. He urged that members make their slogan for 1926, "2500 Members for Memphis in 1926."

An analysis of the report of the stock survey of the Department of Commerce, described by Mr. Palmerton was made by Mr. Burger, the retiring president, and showed that N. T. D. A. membership represented a class of dealers carrying from 201 to 1,000 tires in stock. He suggested that members again present what they considered to be a definition of a tire dealer and a committee was appointed.

This committee defined a tire dealer as follows:

A tire dealer is an individual, firm or corporation: First—whose activities are principally directed towards the sale of new tires and tubes.

Second—who buys tires for the purpose of re-sale at a reasonable price.

Third—who carries in an established place of business, a representative stock of new tires and tubes and has adequate facilities for service.

Fourth—who has a sufficient moral and financial standing to enable him to properly conduct his business.

Government Urges Simplification

THAT a simplified list of tire sizes is greatly to be desired, and that something should be done to bring this about, is the practically unanimous agreement among the principal interests concerned with the production, sale and use of tires, as reported by R. M. Hudson, chief of the division of simplified practice, U. S. Department of Commerce.

Mr. Hudson regards the present tire situation as one of the most striking examples of economic waste prevailing in industry today. The current nation-wide interest in reducing waste in production and distribution of commonly used commodities, he says, is a challenge to all contributing to such wastes to prove the soundness of their position. He sees in the proposal for fewer tire sizes a further opportunity to demonstrate the tremendous power that exists in co-operative action by all interests for the elimination of waste in typical American industries; and he adds that it is through the elimination of such wastes as the tire example affords that the automotive and related industries will find their greatest opportunities for future growth and development.

Diversity of Opinion

Those who are intimately acquainted with the joint efforts being made toward fewer tire sizes by committees of the Rubber Association of America, Inc., the National Automobile Chamber of Commerce, the Society of Automotive Engineers and the like, feel that progress is being made as rapidly as current conditions will permit. But others do not agree. A few even have questioned the possible value of the services which the Department of Commerce might render in bringing about the early establishment of a simplified line of tires, while a much larger number believe that action will be expedited if the department renders to the interests concerned the same service it is rendering to so many other industries having simplification problems.

Mr. Hudson has just submitted to the industry a summary of the whole situation in the hope that the several interests will soon co-ordinate their views, set up a tentative simplified line, submit it to all concerned and work thereafter to maintain that line at the minimum consistent with the real needs of the industry, the trade and the consuming public.

Practically all of the 24 prominent car manufacturers who contributed to this survey agreed that standard tires sizes could be established only as the several interests co-ordinate their views and co-operate in the application and support of whatever standards are ultimately set up.

All of the 21 truck and commercial car makers questioned agreed that simplified tire sizes would mean lower inventories, smaller investments, quicker turnover and greater economy.

Nearly all of the 47 tire manufacturers

Multiplicity of Sizes and Styles a Striking Example of Economic Waste, Declares Chief of Bureau of Simplified Practice.

represented in the survey felt that the solution of the problem rested mainly with the car manufacturers as the tire producers obviously make only what their customers demand.

Practically all of the nine wheel and rim manufacturers favored a greater degree of simplification than now prevails and were willing to co-operate to bring this about.

Fourteen manufacturers of chains favored simplification, nineteen cover makers were willing to co-operate toward fewer tire sizes, and trade and business

Tire manufacturers, though enthusiastic for simplification, point out that a tire maker and a car designer are inclined to agree on a new tire size without much regard for the effect which the introduction of a new size will have on the general situation in the industry. This lack of a truly standard list and the consequent lack of regard for the dealer who has to service many different models is said by some to cause millions of waste in the tire industry. Reduction of inventories, idle investments tied up in slow moving stocks, quicker turnover, better service of supply and better quality are some of the advantages cited as coming from simplification.

Mr. Hudson reports that the production of 20 in., 21 in. and 22 in. diameter wheels, also 18 in. and 19 in. as experimental possibilities, together with the 23 in. and 24 in. diameters has thrown a great burden on wheel and rim makers, one from which they would gladly be relieved. One manufacturer questions whether the transition period is over and says time alone can tell what size is best to accept as standard. His belief is that it will be the 21 in. diameter.

"There was confusion enough in tire sizes prior to the introduction of the balloon type," says C. A. Vane, general manager of the National Automobile Dealers Association, "but since 1923 we have had the high pressure tire, the semi-balloon and the full balloon, each with a full range of sizes and models, and it is quite needless to say that only a very limited percentage of automobile dealers can stock enough tires of the different types and sizes to be able to simplification continues."

Burger Urges Relief

George J. Burger, president of the National Tire Dealers' Association, says:

"Our Association will lend any amount of assistance helping to eliminate the waste that exists in the industry. I believe, in the near future, when high pressure tires will be gradually eliminated, that some set plan should be adopted by rubber manufacturers and car manufacturers on whether at the outside one dozen tires should answer the requirements of all.

"Another feature which delays the arrival of complete simplicity is the failure so far of motor car engineers to be in complete accord in respect to proper sizes. Some of the engineers of the largest car producing units still insist on odd sizes and specifications for the new models. Their business is of such importance that the tire manufacturer cannot be adamant to their demands, so he bids for and gets the business. The other manufacturers, not being successful in getting the original equipment, have reached out for the replacement business on these models, and so have added to their sizes, and so the merry chase away from the first principles of simplification continues."

Who Are the Tire Dealers?

The survey of the retail tire trade made by the Department of Commerce as of Oct. 1, 1925, revealed that out of approximately 37,000 retail sellers of tires responding to the Government's questionnaire only 16 per cent derive the major part of their business from sale of tires. In other words comparatively few dealers are in business primarily to sell tires, but a great majority of the merchants selling tires are engaged in other lines of the automotive business. The following figures were quoted by P. L. Palmerton, chief of the Rubber Division of the Department of Commerce:

Business Service of Tire Dealers	
Selling automobiles39 per cent
Selling accessories77.9 per cent
Selling gasoline74.9 per cent
Operating air compressors53.7 per cent
Major part of business from tires16 per cent
It was found that only 20 per cent of the dealers operate tire repair departments.	

papers as well as automotive associations generally favored the idea.

Mr. Hudson reports that one or two car makers point out that the car designing engineer should be free to specify a tire size that will fit in with the particular design of car he is bringing out. This freedom of choice, causing demand for odd or special sizes, is deplored by others who feel that selection from a well-thought out list of standard sizes is both possible and practicable. One manufacturer believes that the balloon tire is still in the engineering stage and that until more data are available on its performance it will be difficult to set standards for that class of tires.

The New Model Ninety Locomobile

Chassis Includes Most Modern Features Known to Present Day Engineering; Prices Range from \$5500 to \$7500, Depending on Body Style.

By P. M. HELDT

THE announcement of a new Locomobile is an unusual event, for while changes in design have been made at frequent intervals, the "48" has been the one Locomobile for a great many years. The designation of the new model is based on the power it develops, it being known as Model 90, although the piston displacement is less than that of the "48."

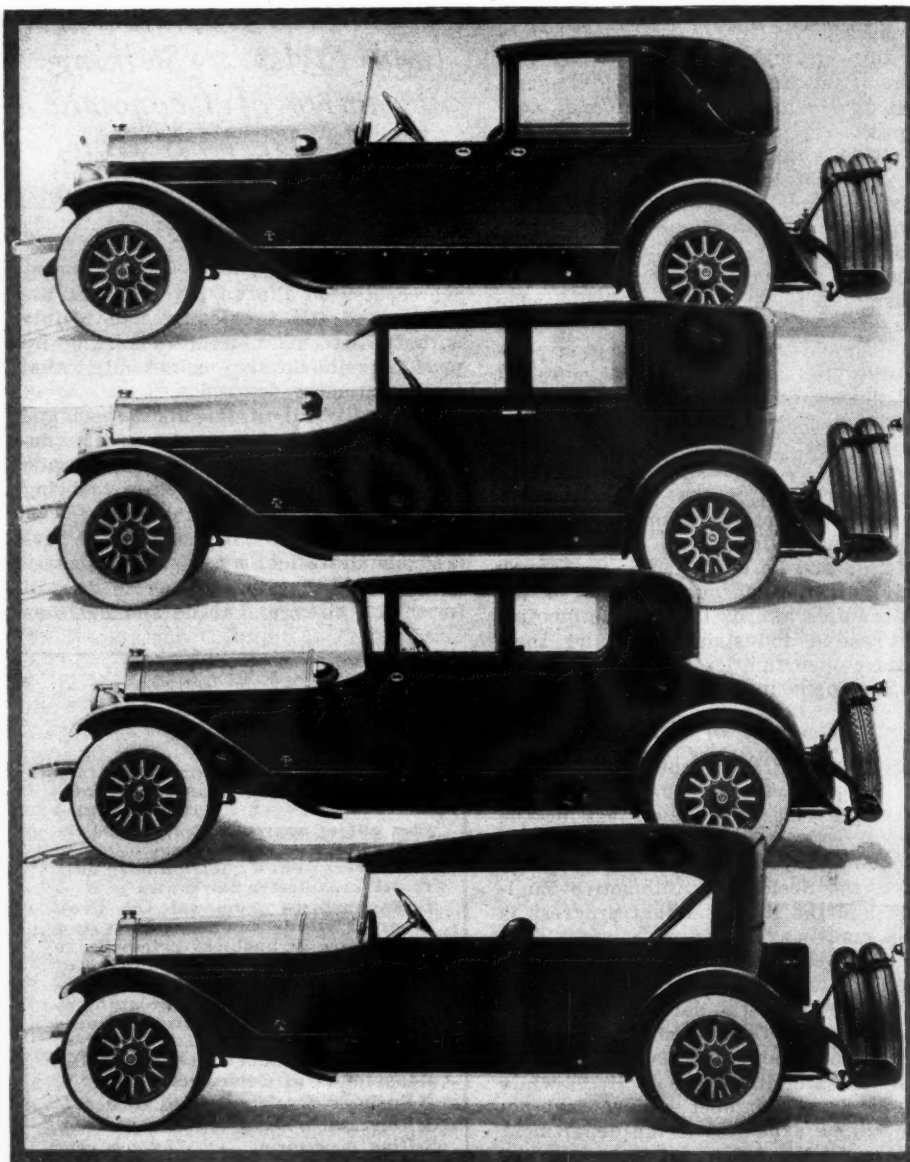
The engine is a high speed type with L-head cylinder, detachable head, light reciprocating parts, seven bearing crank finished all over, silent chain front end drive and pressure lubrication.

A single plate clutch is used, with molded asbestos lining, reliance for smooth engagement being placed on the spring action of the deformed disc. The transmission is a separate unit, with Maag-ground gears and with ball bearings throughout. Four-wheel brakes (Bendix-Perrot three-shoe) and balloon tires are standard equipment, and as the car has rear springs 60 in. in length and shock absorbers all around, it leaves little to be desired from the standpoint of riding comfort. The wheelbase is 138 in. and the tread 58 1/4 in.

The prices of the chassis and of the different types of complete car are as follows:

Chassis	\$5,000.00
Touring Car	5,500.00
Roadster	5,900.00
Coupe	6,950.00
5-Passenger sedan	7,300.00
5-Passenger sedan with division	7,450.00
7-Passenger enclosed drive Limousine	7,500.00
Brougham	7,500.00
7-Passenger non-collap- sible Cabriolet	7,500.00

The engine has a bore of 3 3/8 and a stroke of 5 1/4 in., making the displacement of the six cylinders 371.5 cu. in. The compression space is 23.5 per cent of the combined displacement and compression volume, so that the compression ratio is substantially 4.25:1. Two large size openings are cast in the water jacket. These are covered by sheet steel plates, and a water inlet manifold is bolted to these cover plates. This promotes uniform circulation of the cooling water through the jacket.



New Locomobile "90" Models. From top to bottom: Cabriolet; four-passenger sedan on new chassis; Coupe with roomy luggage space; four-passenger touring car with trunk mounted over the gasoline tank.

A water outlet boss is formed on the cylinder head at the forward end, into which is set a bellows-type thermostat.

All valves are identical in dimensions and interchangeable. The clear diameter of the valve ports is 1-25/32 in. and the lift of the valves is a few thousandths over 3/8 in.

Cast iron pistons of a light design are used. These carry three rings near the upper end and an oil scraper ring near the bottom.

The piston pins, which are tubular and case hardened, are secured in one of the piston bosses by a pin screw which extends entirely through the boss and piston pin. A bronze bushing is pressed into the upper end of the connecting rod and provides a bearing for the piston pin 1 1/8 in. in diameter by 1 3/4 in. long. At

the bottom end of the connecting rods the babbitt is cast directly into the steel and no shims are used. Two standard type connecting rod bolts hold the cap in place.

The crank shaft is a seven-bearing design and is finished all over. All bearings are of 2 1/4 in. diameter. Crankpin bearings are 2 1/4 in. long while the seven main bearings are of the following lengths (front to rear), respectively: 2 1/8, 1-5/16, 1-5/16, 1-15/16, 1-5/16, 1-5/16, 3-1/16 in. As may be seen from the longitudinal section, end thrust is taken up on the front bearing. Diagonal oil holes are drilled through the crank arms through which the crankpin bearings are oiled from the main bearings.

At the forward end the crank shaft carries the driving sprocket for the Link-Belt silent chain "front end" drive, and

beyond this there is mounted upon it the Lanchester vibration dampener, which is entirely enclosed within the timing chain housing and runs in oil. At its very end the crank shaft carries a grooved pulley for the fan drive.

Camshaft Serves as Oil Lead

The camshaft is drilled from end to end to serve as an oil lead for its own bearings, and is supported in four bearings of the following dimensions (front to rear): 2-5/16 x 1-15/16 in. (long) 2-9/32 x 7/8 in., 2 1/4 x 7/8 and 2-7/32 x 1 1/8 in. The valves are operated by tappets of the mushroom type, the guides for which are held in place in holes in the top wall of the crankcase in pairs by means of yokes. The guide at the top extends slightly above a shoulder on the tappet, thus forming a pocket which catches oil and ensures effective lubrication.

The crankcase consists of two aluminum castings, the parting plane being about 2 1/2 inches below the crank axis, which gives a very rigid supporting member.

Fuel is carried in a 21-gallon tank carried at the rear of the frame, a screw filler cap being provided which is secured by a central locking screw. The fuel tank has a 3-gal. reserve compartment and the reserve is made available by giving a half turn to a lever conveniently located on top of the tank. An interesting feature in connection with the device is that even if the operator should fail to turn the lever back to its original position when he refills his tank, the fuel supply to the carburetor will cease when only 3 gal. remains in the tank.

Fuel feed is by air pressure, a gasoline gage being mounted directly on the fuel tank, no dash gage having been found satisfactory with the pressure feed system.

A "United" air cleaner is fitted to the air inlet of the 1 1/2 in. Stromberg Model OX-3 carburetor.

The inlet and exhaust manifolds are separate castings but are bolted together. A jacket is formed on the inlet manifold where the vertical part joins the horizontal part, which jacket communicates freely with the exhaust manifold.

With the exception of the battery, the whole of the electrical system is of DeJon make. The generator is driven from an enclosed accessories drive shaft on the left side of the engine through an Oldham type coupling, and the same shaft drives the water pump, which is located in front of the engine. The starter drives to a flywheel crown gear, engagement being by foot-shifted gears actuated by the same motion which closes the starter switch. The battery is a USL of 166 ampere-hours capacity. It is located in a battery compartment under the right splash apron, and to make the filler plugs

more accessible they are offset from the center toward the outer side. The ignition unit is driven through a vertical shaft at the middle of the length of the engine on the valve side, which shaft is driven from the camshaft through helical gears and drives the oil pump from its lower end. Spark control is partly automatic, manual control being provided for high speed work.

All wiring is carried in flexible metal conduit. The spark coil is mounted on the forward side of the dash and there are also two fuse blocks on the front of the dash. On the dash directly over the engine is mounted an "engine light" which facilitates inspection, this same light serving as a general trouble light. Ordinarily this cord supplies current to a cigar lighter.

Lubrication is by the now conventional pressure system with a direct lead to each main bearing connected to the bearing cap. Oil enters the camshaft at one of its bearings and is fed through it to the other bearings. A direct-reading

der the left splash apron. The gear ratios in the transmission are as follows: 3.32:1 (low), 1.82:1 (intermediate), 4.35:1 (reverse). A transmission lock is provided.

Three different final drive ratios are used. A 4.15 ratio (13 and 54 teeth) is used on the roadster; a 4.5:1 ratio (13 and 58 teeth) on all other models, while a 4.75:1 ratio (11 and 52 teeth) is offered as an option. Torque reaction of the rear axle is taken on a pressed steel torque arm whose forward end is supported between rubber cushions on a frame cross member.

Rear Axle

The rear axle is of Eaton make and is of the semi-floating type with pressed steel, welded housing. Taper roller bearings are fitted on both sides of the differential, annular ball bearings in all other places. The bevel pinion is straddle mounted.

Underslung mounting of the semi-elliptic rear springs serves to lower the frame and the whole car. These springs are

60 in. long and 2 1/2 in. wide, and they are provided with the self-adjusting spring shackles which were developed for the Model "48" a year or so ago. The front springs are 40 in. long and 2 in. wide and also have self-adjusting cone type shackles. Lovejoy hydraulic shock absorbers are fitted all around.

The front axle is also of Eaton make, the front wheel being mounted on taper roller bearings.

Sixteen inch three shoe Bendix-Perrot brakes are carried on all four wheels, the actual internal of the drums being 15-21/32 in. and the effective surface of each brake, 98 sq. in.

The brakes are equalized in pairs. While the brake pedal applies the brakes on all four wheels, the brake lever, which is located to the left of the driver's seat, applies only the rear brakes, through a special equalizing mechanism.

Steering Gear

Steering is by a Locomobile Ross cam-and trunion type steering gear, operated by means of an all wood hand wheel. Provision made whereby any looseness at the upper end of the steering column can be readily taken up.

A combined dash and instrument board construction is used similar to that much seen on European chassis and which is very handy where custom-built bodies are to be fitted. Thus all instruments can be mounted and all connections made before the body is put on.

The balloon tires are of the 33 x 6.75 in. size and are fitted to Firestone collapsible rims on artillery wood wheels.

All of the major tools in the tool box under the left splash guard are held by clamps or straps, so that each one is always in its proper position and can be reached instantly.

(Continued on page 36)

NATIONAL SHOWS ISSUE And Specification Number of MOTOR AGE

Will be published January 7, 1926, and will contain descriptions of brand new 1926 models and about 40 pages of up-to-date specifications of passenger cars, trucks, taxicabs, tractors and motorcycles, and many other special editorial features.

float type oil level gage is provided. The float being located in a pocket at the side of the oil pump. In this same pocket and concentric with the float and its stem is located a handy crankcase oil drain valve of the conical type which is operated by means of a handle at the side of the crankcase. The oil pump is bolted against the main crankcase casting and carries the usual oil strainer and relief valve.

The radiator is of the cellular type, of G. & O. make, and has a detachable, pressed steel nicked shell. The centrifugal pump has a shaft of stainless steel.

Owing to the fact that the transmission is a separate unit there is no bell housing and the flywheel is exposed. The engine is supported from the main frame at four points.

Four Speeds

Three forward speeds and one reverse are given by the transmission. All gears are of alloy steel, oil hardened, and the teeth are ground by the Maag generating grinding system.

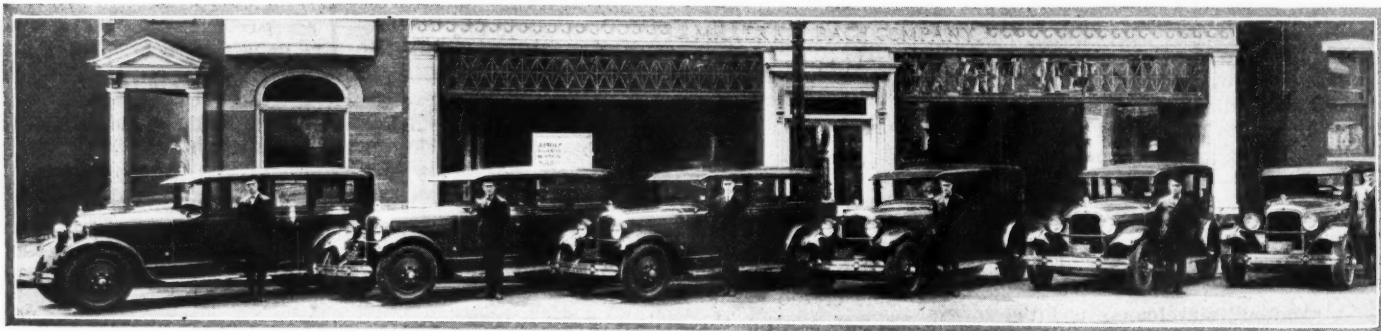
The speedometer drive is taken off the rear end of the splined shaft of the transmission. At the left side of the transmission is a Kellogg tire pump which is started and stopped by means of a clutch lever located in a tool box located un-

MOTOR AGE'S PICTURE PAGES



CLOSE TO NATURE. A vivid suggestion of the joys incident to autumnal motoring is contained in the display window of the Grand Rapids (Mich.) Flint Co., which portrays a portion of Kent County's woodland. Charles Kalder, the manager, has arranged a complete hunter's camp in which no necessary piece of equipment has been omitted nor any detail of the landscape overlooked.

DE LUXE SERVICE. The Yellow Taxi Co., Reading, Pa., uses the Nash seven-passenger sedan in its service. The cars are shown lined up in front of the display rooms of J. Miller Kalbach Co., Inc., Reading dealers.



IN REGAL STYLE. A king driving his own motor car to an important court function almost upset the traditions of his people. He was King Magwa, head of the Kikuyu tribe of Kenya Colony, Zanzibar. He is shown here at the wheel of his Studebaker.



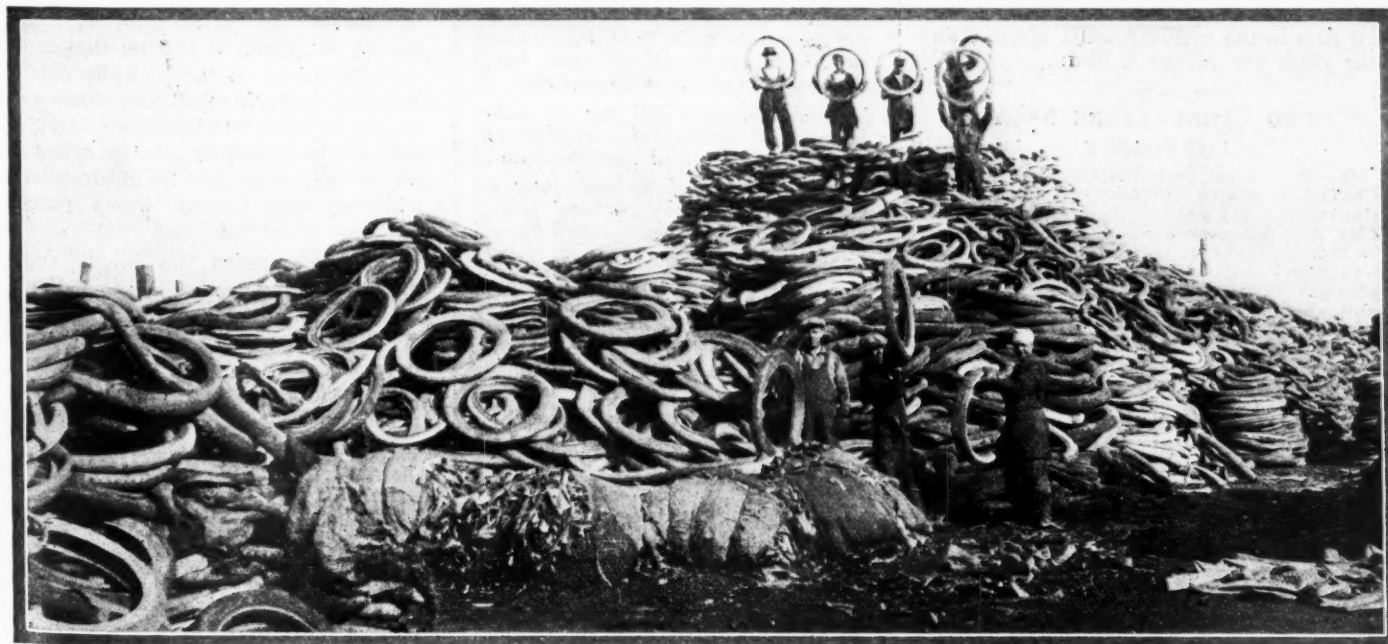
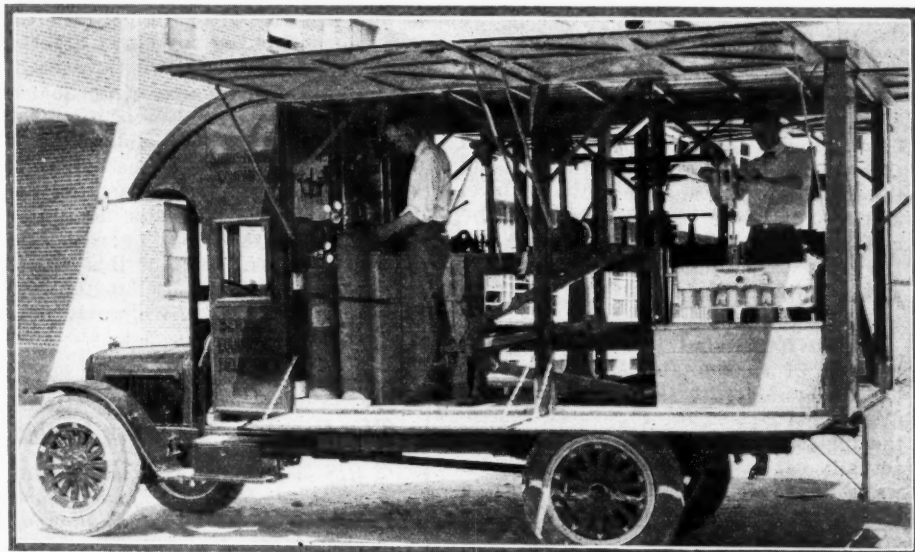
OF AUTOMOTIVE INTEREST



MORE WOE FOR THE TRANSGRESSOR.

Cleveland police have adopted radio-equipped cars to aid in the apprehension of criminals. The department has eight 70-h.p. Peerless cars for squadron work, each of which will carry two receiving head sets and a loud speaker, in addition to batteries and other radio mechanism.

A SHOP ON WHEELS. The Straus-Frank Co., San Antonio, Texas, has increased its sales of shop and garage equipment 700 per cent by taking the equipment directly to the prospect by means of this truck and demonstrating at first hand the efficiency of its wares.



NEW ENGLAND'S BIGGEST AUTOMOBILE TIRE PILE. A veritable mountain of rubber tires is owned by the Fienberg Rubber Co., Cambridge, Mass.

The READERS' CLEARING HOUSE

Questions and Answers on Dealers' Problems

**BUILDING • ELECTRICAL • FLAT RATES
SHOP • LEGAL • PAINT & TRIM • ACCOUNTING**

Oil That Goes Up Must Burn Up

Q.—I would like your explanation as to why a motor with force feed lubrication that leaks oil in a stream instead of a spray at one or two bearings, consumes such an excessive amount of oil? (Taking for granted the motor does not leak oil on the outside.) I think that as long as crank case is oil tight it would not hurt if oil was streaming from one or two bearings, as is the case in a motor with splash oiling. I have had cases where I filled up the crankcase in a splash oiled motor way over the proper level after taking up all bearings and I did not notice any excessive amount of oil used, and this would be about the same condition as a motor with force feed oiling and some of the bearings leaking oil badly.—E. L. Chester, 4828 Fletcher Street, Chicago, Ill.

Apparently the two cases are similar. In the splash system however, we depend on the lower end of the connecting rod throwing enough oil so as to lubricate the cylinder walls and when the oil level is too high there is a chance that the cylinder wall will receive too much oil. In many cases this will occur with a splash system and excessive oil consumption will result.

If you found that there was not excessive oil consumption you may have had an engine with the rings very well fitted. Perhaps in the force feed system the oil comes with greater velocity and actually carries more oil to the cylinder walls than would be the case with a splash system and too much oil in the crankcase. We know it to be a fact that badly leaking bearings will cause excessive oil consumption and carbonization of the engine, so it must be true that the oil gets to the cylinder walls faster than the rings can scrape it down.

TWO CARBURETERS ON A CHEVROLET

Q.—We have just installed two 1923 Chevrolet Zenith carbureters on a 1923 Chevrolet. We are having trouble in getting it to hit evenly on all four cylinders. It hits all right on one and four, but two and three cylinders are very weak in idling. At speeds from 20 miles per hour and up it hits evenly. Have tried loosening the tappets on No. 1 and No. 4, but to no avail. We have a separate neck for each carbureter. We have not changed the jet in low speed but have made high speed jet smaller.—Clarence W. Keener, Miethe Motor Company, Georgetown, Ill.

In using two carbureters on the same engine, it is essential to have the throttles open at the same time. This means that there must be no lost motion in the rod connection from one throttle to the other. A type of ball and socket joint which has no springs and which is positive in action is recommended. It might also be advisable to replace the regular Chevrolet throttle lever with a universal clamp lever which is a standard Zenith

part, this unit being somewhat stiffer and more positive in action.

The condition you are getting is a natural one for with two carbureters the velocity of the air is slight at low speeds. If you were using this engine in racing this would be no serious disadvantage for poor idling is characteristic of race car engines. The local Zenith representative recommends using standard jets, although you might use a slightly smaller choke or venturi.

Another possibility of getting better action is to connect the two intake manifolds above the carbureter with a pipe 1/2 inch in diameter or greater so as to equalize the pressure between them and compensate for any slight difference in the opening of the two throttles.

Another possible cause of unequal distribution is in the location of the throttle or butterfly valve. We understand that the shaft is crosswise of the car, so that when the butterfly valve or throttle is only partly open it sends the mixture either toward the front or rear of the manifold. If the shaft of this butterfly valve had its axis parallel to the center line of the car then there would not be this tendency.

The Readers' Clearing House

THIS department is conducted to assist dealers and maintenance station executives in the solution of their problems.

All questions are answered direct by letter, so the name and address should be given in full. This saves waiting for the answer to be published, which sometimes occurs several weeks late, depending upon the space available.

Readers' names will not be published with articles, if a request to this effect is received with the letter.

Inquiries not of general interest will be answered by personal letter only. Emergency questions will be replied to by letter or telegram.

Also state whether a permanent file of MOTOR AGE is kept, for many times inquiries of an identical nature have been made and these are answered by reference to previous issues.

Addresses of business firms will not be published in this department but will be supplied by letter.

Technical questions answered by B. M. Ikert and A. H. Packer; Legal, by Wellington Gustin; Paint, by G. King Franklin; Architectural, by Tom Wilder; Tires, by a Practical Tire Man; General Business questions, by MOTOR AGE organization in conference.

How Many Cylinders Makes a Motor and a Half?

Q.—We have had quite a debate in regard to four, six and straight eight motors. A claims that a six cylinder motor is a perfectly balanced motor whereas a four or eight is not. B contends that a four is a complete motor, and eight is two complete motors and a six motor being a motor and a half, which is the reason that practically all endurance races such as are conducted on Indianapolis Speedway have only four and eight cylinder entries. We would like to have your explanation.—East Chicago Auto Sales Company, 524 Chicago Ave., East Chicago, Ind.

While four and eight cylinder engines may have predominated at the Indianapolis races, we find that six cylinder engines were used as follows; in 1911 by Marmon and Knox, in 1912 by White and Knox, in 1913 by Sunbeam, 1914 by Sunbeam and Excelsior, 1916 by Sunbeam and in 1919 there were two Hudson cars and one Stickel.

The engines employed are chosen primarily on account of the power which they can develop whereas the choice of a four, six or eight for passenger car service, must also take into consideration, quiet operation and freedom from vibration.

The question of the causes of engine vibration is a deep one and we would recommend your getting a copy of the Gasoline Automobile by P. M. Heldt, volume one, which can be obtained at any large public library. Chapter five covers the question of engine balance. According to Mr. Heldt it is true that the six cylinder engine is theoretically perfectly balanced and where vibration does occur in six cylinder engines it appears to be due to the elasticity of the crankshaft which as the explosions occur tends to wind up and unwind which produces torsional vibration.

In recent years the racing engines have had to be designed for smaller and smaller cubic displacement. In order to get high power with small displacement, it is necessary to have very high engine speed. To attain high engine speed it is necessary to have light weight reciprocating parts and this factor has probably dictated the eight cylinder engine, for with the light weight parts in use a high speed approximately 5000 r.p.m. was attainable and this enabled the engine to produce a great deal of power. We do not know of any classification which makes a certain number of cylinders equivalent to a motor or two motors or to a motor and a half.

Planning Your New Building

By TOM WILDER



Suggestions for Spanish Style Automotive Buildings

Q.—We are contemplating building a salesroom on a lot 58 by 93 ft., and wondered whether or not you might be able to offer some suggestions. The building is to be of Spanish architecture, of white stucco. We would appreciate anything you could do in the way of letting us have some sketches or photographs from which we might choose just what we want.—Robbins-Buick, Inc., Baltimore, Md.

As there seems to be a demand for the Spanish style of automotive building especially in the west and south where the early Spanish settlers left their imprint, we are publishing four elevations designed to help satisfy the demand. You would do well to go through a file of *MOTOR AGE* for the last two years as numerous pictures of buildings in this style have been published.

There is one great advantage in this style and that is that with the exception of the tile roof it is comparatively inexpensive. All that is usually needed is the frame-work of tile or even wood covered with metal lathe or some other improved frame-work upon which the stucco may be applied.

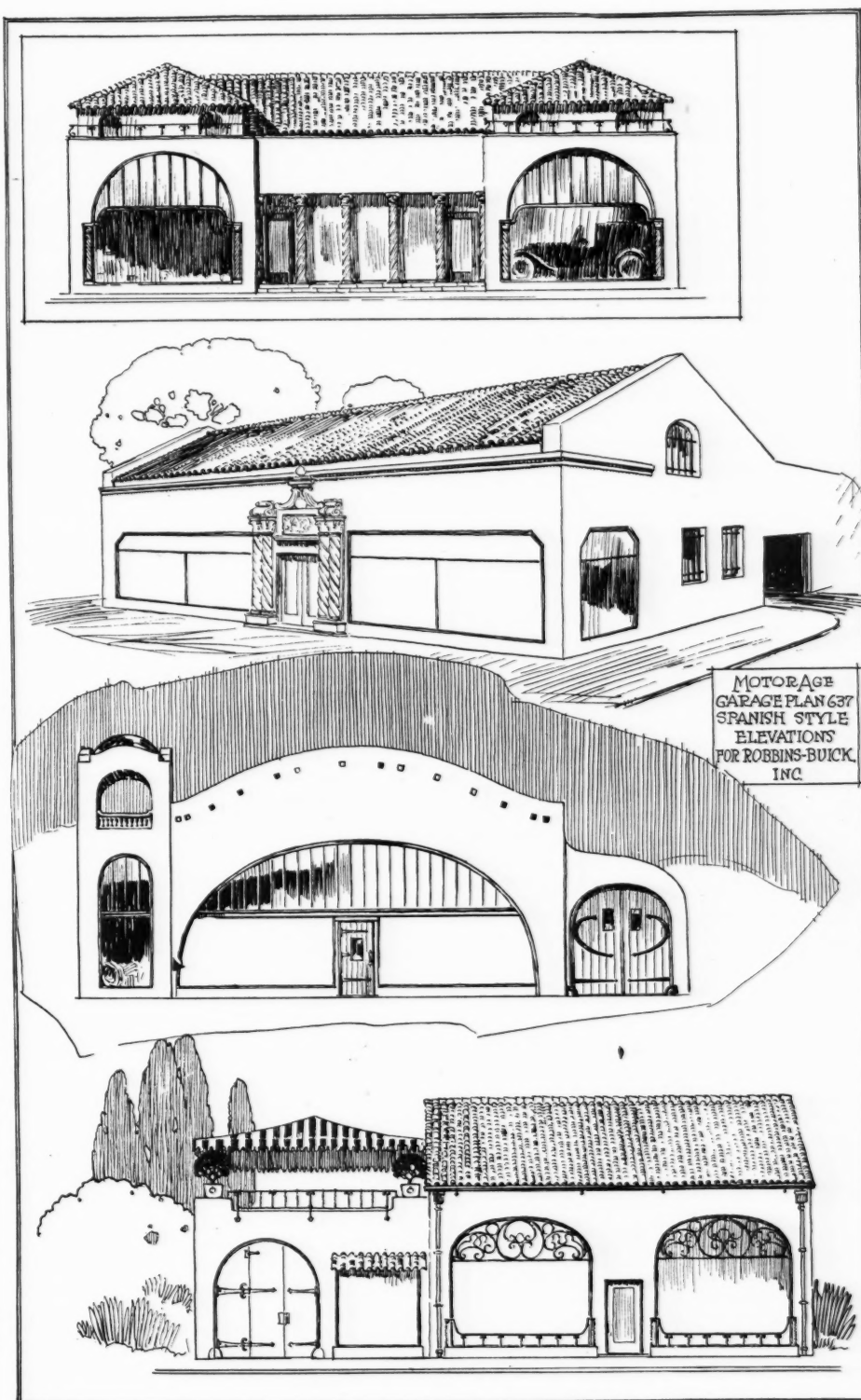
Regarding the stucco itself there is a wide variety of materials. Gypsum and lime plasters are used to a great extent both in the north and south, but the more durable cement stucco is to be preferred for northern locations where frost and dampness are liable to damage the others. The magnesite cements are very durable for both north and south, but they are considerably more expensive and need only be considered where durability with elasticity is a desirable factor. A white stucco may be obtained by using white cements and by using considerable lime in ordinary cement for the finishing coat, or by using ordinary cement stucco and painting it white afterwards using an especially prepared cement paint.

The textures obtainable in the finish of stucco are almost innumerable. The United States Gypsum Company issues two booklets showing samples of finishes for their oriental stucco and also for interior plaster. The method of obtaining each effect is also described and you would do well to get these booklets.

SELLING CAR FOR STORAGE

Q.—I would like for you to tell me how long a car has to be held before it can be sold for storage and what steps have to be taken before it can be sold.—Lawrence Harper, Valley Junction, Iowa.

In your state there are separate provisions for repair lien and storage lien. Sale of a car for storage may be made at public auction, after giving to the owner or claimant, if found within your county, ten days' notice in writing of the time and place of such sale, and also by posting written notices thereof in three



Spanish architecture furnishes an infinite variety of forms and decorations that are limited only by the builder's pocketbook

public places in the township where the property was kept or received.

From the proceeds of the sale you can

pay all the charges for storage and the cost and expenses of the sale, the balance going to the owner of the property.



Defeating Old Man Wear and Tear

Bent Levers Gum Up The Works

Q.—We have had trouble with the clutch on a 1924 Maxwell. After it was adjusted it made a chattering noise and after driving 100 miles we took the cover off and found that the three clutch release levers were riding on the outer edge of the clutch release sleeve bearing, cutting a groove in the bearing and wearing the surface of the clutch release levers. The mechanic who adjusted the clutch said that the trouble was due to improper lubrication. It seems to me it was due to improper adjustment. Do you think it would be advisable to install new clutch release levers?—R. I. Pia, Park Garage, Cornwall-on-Hudson, N. Y.

We are showing illustration of the Maxwell clutch. The three clutch release levers should come within 1/16 inch of the clutch release sleeve bearing and the adjustment should be such that they all take hold at the same time when the clutch pedal is operated. The trouble you are having is apparently due to the clutch fingers being bent so that they slip off the edge of this bearing instead of making contact with the flat surface.

If the levers are not damaged to any extent, they can be used if bent back toward the center of the clutch, so that there is no danger of their slipping off. Lubrication for this bearing is 600-W which works in from the transmission through the hollow shaft. If insufficient lubricant is kept in the transmission or if the lubricant is too heavy and does not work through properly then the throw out bearings or clutch release bearings may suffer from lack of oil. Whether you need new clutch release levers or not depends on the condition of the old ones which only an inspection will determine.

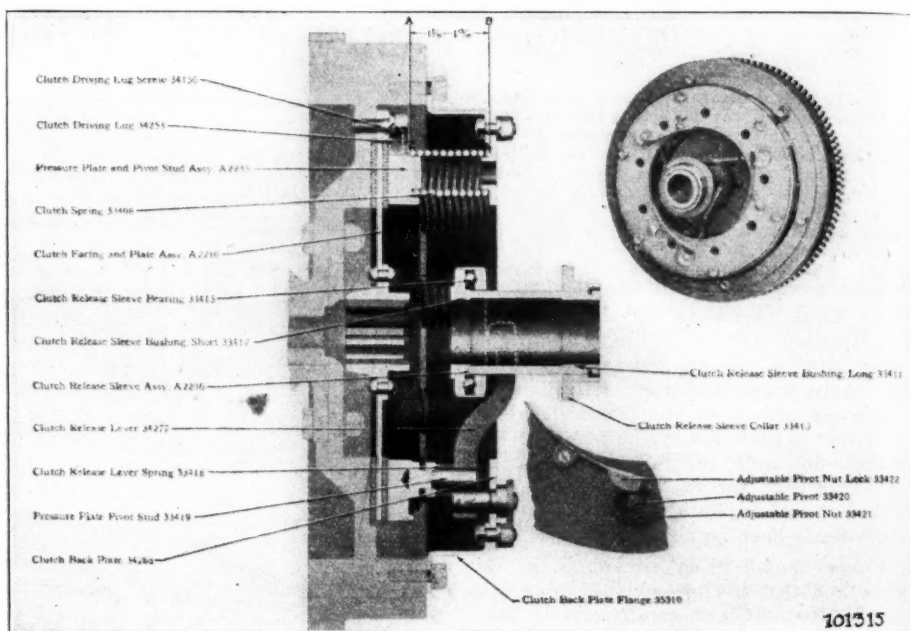
NEW TIMING CHAIN IS NOISY

Q.—We have a 1920 or 1922 Revere touring car which was overhauled lately and new timing chains and sprockets put on. They are noisy when the motor is running. They seem to be adjusted right. —D'Arcy Brothers, 7820 Langley Ave., Chicago, Ill.

It is possible that the chain was put on so as to run in the reverse direction. Most chains have arrows marked on the sides which show the correct direction in which they should be run.

Q.—Would like to know the correct timing for the valves and the correct way of timing the ignition.

The intake valve is supposed to open when the engine is 7 degrees past upper dead center and the exhaust valve is supposed to close when the engine is 11 degrees past top dead center. It would be near enough to have either event take place when the piston has



Sectional View of Clutch Used on 1924 Maxwell

gone up to top dead center and has barely started down again not more than 1/64 or 1/32 down.

Trouble Is Probably Due to a Leaking Cup

Q.—We have a 1925 Moon sport touring car with four wheel hydraulic brakes which leaks in the two rear brakes. Could we repair these without special wrenches and what do you think is causing the leaks as they are new brakes?

We understand that a new type rubber cup is now available which is not affected to any extent by the hydraulic fluid used in the system. The trouble you are experiencing is no doubt due to the old type which leaks on account of being affected by the fluid. New type rubber cups should be installed these being obtainable from any authorized Moon service station for approximately 55 cents there being two used in each brake cylinder. The pistons themselves have also been changed the later type being aluminum instead of cast iron and these may be obtained for approximately 88 cents each. The work of changing these can be done in about 2½ hours for each brake and no special wrenches are required, the conventional open end and socket wrenches taking care of the job.

Q.—Where can I get the mixture for these brakes and what kind of solution is used in making it?

The fluid used consists of a half and half mixture of commercial grade castor oil and denatured alcohol thoroughly mixed. Nothing else should be used. Castor oil commercial grade, can be obtained through wholesale paint or lead concerns.

Q.—The engine when it has new oil or when the oil is cold seems to have a grind in it but when the oil is warm the grind goes away.

We do not believe the trouble is in the engine but rather in the transmission or rear axle. 600 W should be used in the transmission and rear axle and if a heavier lubricant is used it may be that it does not cling to the gear teeth and when the car first starts up causes the noise to which you refer and which you attribute to the engine.

LEAVIN' 'EM OUT TO RUST

Q.—Why do some large automobile concerns leave their engines out to rust or where the air can get at them before they are good enough to use?—Howard Scott, Willard, Ohio.

It is not the engine but the cylinder block which is left out. The reason for this is that a casting when cooled contains internal strains which in time causes the shape of the casting to change. Accordingly if a cylinder block is bored immediately after it is cast and is built into an engine it will be found that the cylinders will warp in time, causing poor operation of the engine.

For this reason it is customary to leave cylinder blocks out in the air for awhile to give them time to change their shape before being machined. In this respect it corresponds somewhat to shrinking goods before making garments from the material. Where production is heavy, time is not available to use this process so that instead of allowing the casting to age they are heat treated to remove the internal strains, this having the same effect as the longer method.

Clearing Up Electrical Troubles

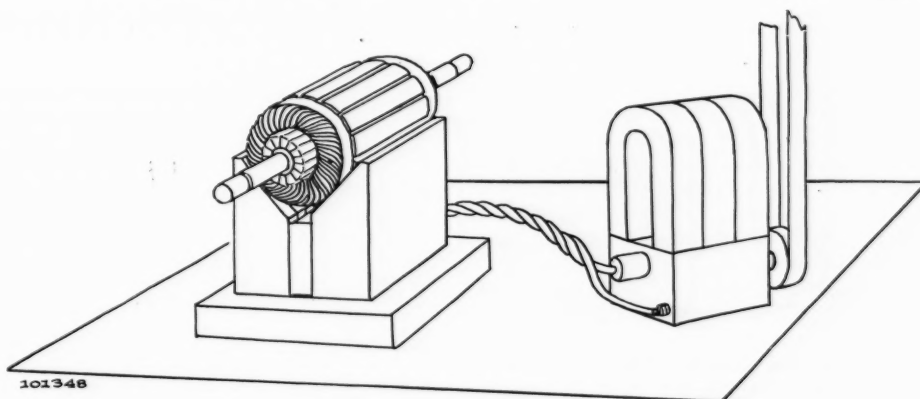
EDITED BY A. H. PACKER



A. C. For the Growler in D. C. District

In the MOTOR AGE Clearing House I have seen articles about garage men in small places where they only have direct current having trouble testing armatures, because they have no alternating current power available. I once saw a fellow use one of the old low tension magnetoes and driving it at pretty high speed to generate alternating current. I think this fellow had a Bosch magneto with 6 magnets on it, 3 side by side and the other 3 on top of the first 3. He had a wire connected from the center terminal at the end of the magneto to one wire of the growler and the other growler wire was connected to the frame of the magneto. Some of these magnetoes are for sale for \$1 or \$2 at wrecking houses and it occurred to me that this might be the solution of the problem in territories where only direct current is available. —Chicago Mechanic.

We assume that the wrecking concerns will soon have to employ detectives to find the cause of the heavy demand for the obsolete type of low tension magneto. The way the magneto would be used to supply growler current is shown by a sketch.



Using an old type low tension magneto to generate A. C. for the growler

the interrupter housing by means of the spark advance lever will give additional spark advance. We do not have any detailed information on this engine, so if you require any other information which does not concern the electrical system would suggest writing direct to the manufacturer.

SOLUTION OF ELECTRICAL MYSTERY

An electrical mystery was published on page 25 of the September 24, 1925, issue of MOTOR AGE, the car in question, a Ford, firing on two cylinders after a new timer and roller had been installed.

Mr. Ray Linn of Shannondale, Indiana, believes that there may be a short in the coil box or wiring. Mr. Charles H. Conklin of Long Beach, Calif., thinks that the cover of the coil box may have been put on in such away that a short circuit exists. Mr. John W. Anderson of Fort William, Ont., is hot on the trail with

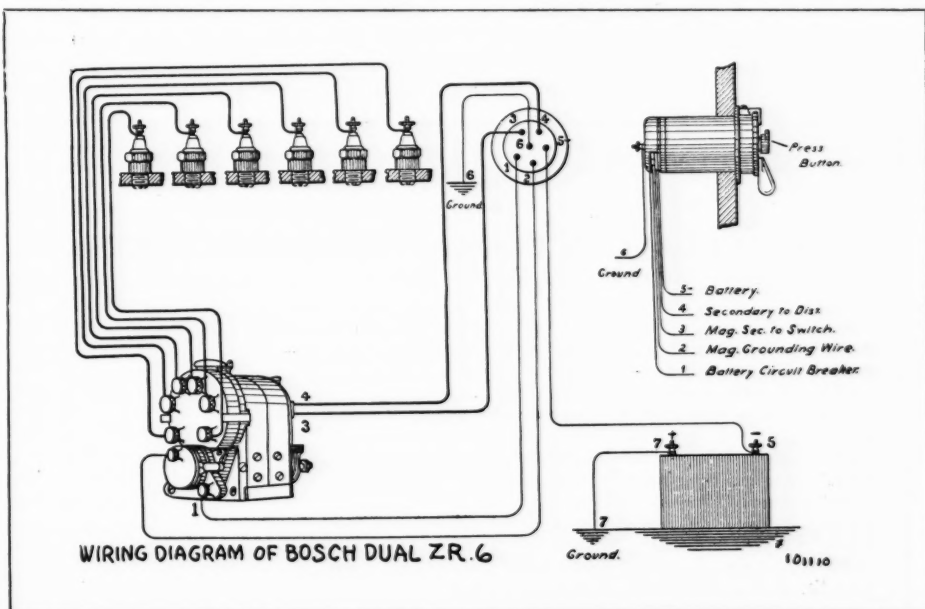
the assumption that the shoulder to which the small spring is attached is too high and strikes one segment while the roller is on another segment. A letter from Toews Brothers Garage of St. Pierre, Man., gives us the suggestion that the hook on which the spring is caught is bent too far out and touches one segment while the roller touches another. Limpert Brothers Garage also sent us a letter in which they also expressed the thought that the hook end of the roller arm is touching one segment while the roller is on another segment.

The answer taken from Mr. Loring's letter shows that several of our readers were hot on the trail and would have been good trouble shooters on this job. Mr. Loring says "So after about an hour we put on another timer roller and the car ran fine. The little hook that holds the roller spring was too long, making a contact between the hook and one segment, while the roller was making contact with another segment."

Marine Engine Uses Dual Magneto

Q. I am in need of information regarding the ignition, timing and wiring diagram of a Murray-Tregurtha reversible marine engine manufactured in Boston, Mass. This engine is equipped with a Bosch dual magneto. Although this is not an automobile engine, I trust you will be able to give me the desired information, which I assure you will be greatly appreciated.—Clarence H. Briggs, 160 S. Hill street, Dubuque, Iowa.

We are showing a diagram of the Bosch dual system. In this case it applies to the model ZR magneto, but the model DU is similar, in case that happens to be the type you are using. On the latter type, we believe that the connection to the center of the distributor is made at the front of the magneto instead of at the back. This magneto should be timed using the battery interrupter, for there are two separate pairs of points, one operating with the magneto current and one with the battery current. Their timing is not the same, one set being advanced somewhat with respect to the other. With the lever in the retard position, you can set the timing so that the spark in the battery position of the switch occurs when the piston has come to top center and has barely started down on the firing stroke. Shifting from battery to magneto will give a slight amount of advance, due to the difference in timing of the two sets of contacts, while shifting





Motor Age's Flat Rate Forum

EDITED BY B. M. IKERT

Cooperation Makes Flat Rates Possible

HOW did we ever get started on the flat rate or definite charge per job idea? The public demanded it, and efficient service was necessary if profitable business for manufacturer and dealer was to continue. The co-operation of dealer and car builder, however, is essential.

The car manufacturer is best acquainted with the car construction and should establish the flat rate charges. He is, however, less familiar with the difficulties encountered in the shop, due to circumstances which may or may not be determined by the car's construction.

One flat rate manual recently received at the MOTOR AGE office gives blanks to be used by the car dealer to report time allowances which may be too high or too low. This concern realizes that a start must be made, but that the first chart or flat rate table may not be perfect. If, for example, continued reports in regard to valve grinding indicate that the time allowance is too low, then a change would be in order.

In other cases it might be found that the time is too high, that the excessive price stirs up ill will and tends to send customers to independent shops operating on an hourly basis or on a lower flat rate basis. Under such circumstances a reduction in the time allowance would be desirable if the complaint appears justified.

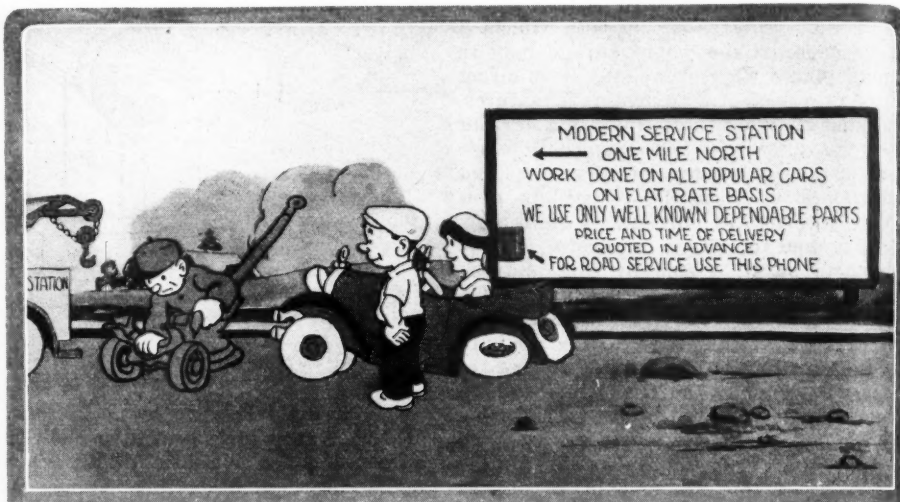
The dealer does not have enough experience, time or clerical facilities, in most cases to develop his own flat rate tables, but he can be of great help to the factory in supplying constructive criticism.

Preserving Rate Tables

Chicago, Ill.

To the Editor of MOTOR AGE:

In one of your numbers I notice you ask for suggestions to make the Motor



THINGS THAT HELP FLAT RATE

Proper advertising boosts fixed prices for making repairs as much as anything and very often much originality can be displayed by the dealer, as shown in the above illustration. As long as the shop operates on a flat rate basis it is a good plan to let the world know about it

AGE Clearing House the best ever. If you will permit a suggestion I will tell you my system for keeping your weekly flat rates where I can get them at a moment's notice, the only way flat rate is of value. I use a thick 1920 260 page MOTOR AGE, labeled on the back Flat Rates—Car Classified.

The book is divided into sections, 10 pages for each letter of the alphabet. First 10 pages (A) cars. Pages 11 to 20 inclusive for (B) cars, pages 21 to 30 inclusive for (C) cars, 31 to 40 inclusive for (D) cars. I use a common ruler 1 in. wide and when I get the week's flat rate I insert the ruler in the book and with sharp knife I cut out the right page of MOTOR AGE and glue in the flat rate on the 1 in. marginal edge that

I left in the book. These don't get any thicker as one replaces the other when removed. The other leaves I leave in and only cut out one at the time I get the new flat rate.

Now in doing this I find I destroy lots of valuable reference that you give in the Reader's Clearing House on account of it being on the reverse side of this flat rate sheet. I like to keep the Clearing House intact and read it at leisure as I can't always read MOTOR AGE the day it comes. Could we not have flat rate on the opposite side of the picture section sheets so they could be removed and I thought also if you gave in one week two pages of A car information on one sheet and next week also two pages on same sheet of B cars, as Buick, then we could file it alphabetically and have a ready reference in time. Motor Journal once published each week a full page wiring diagram of different car each week which we could cut out and file. I sure read with interest article No. 12 Bill Fixit radio test, page 14, October 22, 1925. It was in language I could understand. Give us some more.—G. I. D.

We think your system of filing the pages of the Flat Rate Forum is all right but so far as changing the make-up of MOTOR AGE is concerned we are very much afraid it cannot be done. If we rearranged the pages to put the Flat Rate Forum on the back of the second page of the picture section it would put two Reader's Clearing House pages back to back.

MOTOR AGE'S FLAT RATE FORUM

No. 41

FLAT RATES FOR CLEVELAND COOLING SYSTEM OPERATIONS

Manufacturer's
Official
Designation

	Ov.	Sp.	St.
1157 Flush radiator (chemical treatment).....	5/8	5/8	5/8 hr.
1158 Clear radiator—Overflow tube.....	3/4	3/4	3/4 hr.
1159 Renew radiator cap gasket.....	3/8	3/8	3/8 hr.
1160 Thaw radiator and refill with alcohol solution.....	5/8	5/8	5/8 hr.
1180 Renew one hose connection.....	3/4	3/4	3/4 hr.
1181 Stop leak at hose connection.....	3/4	3/4	3/4 hr.
1182 Install or renew spring in hose connection.....	3/4 hr.
1183 Renew intake elbow.....	1/2	1/2	1/2 hr.
1184 Renew all hose connections.....	3/2	3/4	1 hr.
1185 Tighten intake elbow.....	3/8	3/8	3/8 hr.

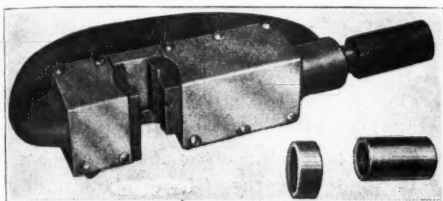
NOTE: Ov. is for models with overhead valves, Sp. is for the 1926 Special and St. is for the 1926 Standard model.

THE MARKET'S NEW OFFERINGS

The Items Presented on This Page Were Displayed at the Recent A. E. A. Show

WEAVER VISE

A PRESSURE vise for holding parts such as camshafts in a vertical position in order that gears may be pressed on was displayed at the exhibit of the Weaver Mfg. Co. of Springfield, Ill. This is intended for use with the Weaver Hi-Speed and regular presses. This vise accommodates work ranging from $\frac{5}{8}$ in. to $2\frac{1}{4}$ in. in diameter and lists at \$22.50. The Weaver display also included a new tire spreader designed to handle all sizes



Weaver Vise

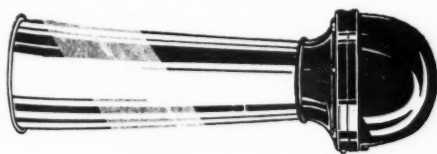
of balloon as well as high pressure tires, taking sizes up to the 7.3 in. diameter balloon as well as high pressure tires up to 5 in. The tire spreader lists at \$28. Another item was a special garage jack, so constructed as to get below any point on the car which is 5 in. or more above the floor. The feature of having the front wheel steering controlled from the handle is incorporated in this jack.

WALDEN WORCESTER GENERAL SERVICE SET

WALDEN Worcester No. 39 general service wrench set, Walden-Worcester, Inc., Worcester, Mass., contains various types of speed wrenches to fit the following cars, Chevrolet, Buick, Chrysler, Durant, Hupmobile, Willys-Knight, Packard, Dodge Brothers, Essex, Hudson, Nash, Star, Peerless, Lincoln, Studebaker, Oldsmobile, Oakland, Overland, Reo and Jordan. All told there are 39 wrenches mounted on a board 6 by 2 ft. Price complete \$40.20.

TOROVOCE HORN

THE Torovoce is the name of a motor driven horn made by the E. A. Laboratories, Inc., Brooklyn, New York. The name is intended to indicate that the tone is that of a Toro or Mexican wild



Torovoce Horn

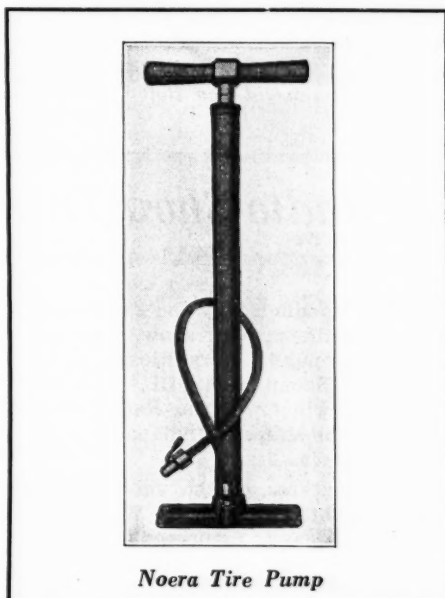
bull. The projector is nickel plated brass and the base is black enamel. It is motor driven with magnetically operated sound producing mechanism. The horn is supplied for either 6 or 12 volts and lists at \$22.

LOCKTITE REPAIR KIT

IMPROVED Locktite Tube and Casing Repair Kit. Locktite Patch Company, Detroit, Mich. The Locktite Fabricback patch which goes with this outfit is said to have been greatly strengthened while a liberal piece of Locktite Plug Rubber to be used in connection with the patch is now included. The plug rubber is a chunk of specially prepared soft, pliable rubber, a piece of which is stuck into the hole. It works its way into all parts of the break before the patch is applied in several layers to repair the casing. The kits, 50 cents and \$1 sizes, will include tubes of Locktite Rubber Cement.

NOERA TIRE PUMPS

COLORLED automobile tire pumps. Noera Manufacturing Co., Waterbury, Conn. Here is a departure in hand pumps. By putting them out in different colors the makers declare car owners are



Noera Tire Pump

quicker to pick them up. The Noera company makes hand pumps in a wide variety of colors and color combinations in addition to still showing pumps in nickle finish. The colored pumps have full Noera quality in all respects. They will help brighten up the counter or window display. List price \$2.50 each.

WILLIAMS SUPERRENCH

WILLIAMS Superrenches, J. H. Williams & Co., Buffalo, New York, are now to be had in chrome-molybdenum steel. Wrenches made from this material, though of lighter weight, thinner section, greater length and with narrower jaws than carbon steel wrenches with corresponding openings, naturally are far stronger. Aside from the different material used the Williams line of wrenches remains substantially the same, although the use of chrome-molybdenum steel has made possible a refinement in design and less weight.



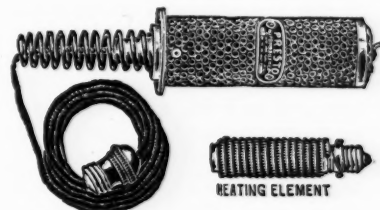
PRESTO MATCH-LESS CIGAR LIGHTER

(Cut shown above.)

PRESTO cigar lighter, Metal Specialties Mfg. Co., 338 N. Kedzie Ave., Chicago, can be installed either through a hole, through dash, or by clamping to bottom of same. Each lighter has all parts necessary for universal mounting. Has an automatic cord rewinder that is concealed behind the dash no matter which way lighter is mounted. Lighter has 5 ft. of cord and Presto switch tip. Made in 6-8 and 12-16 volts. Price \$3.

VOORHEES WELDING HOSE

ACETYLENE Welding Hose, Manufactured by the Vorhees Rubber Mfg. Co., Jersey City, N. J. The new welding hose consists of this company's regular Conqueror hose tube and body with a special oil resisting cover. It is made in green with a white stripe. Deliveries will be made after the first of the year.



Presto engine and radiator heater

NEW HEATER SHOWN

PRESTO No. 2500 electric heater for engines and radiators, Metal Specialties Mfg. Co., 338 N. Kedzie Avenue, Chicago, is now made with a heating element which can be readily removed as it screws into a socket the same as an electric light bulb. This element can be purchased separately should it be broken by accident. Price of the extra heating unit is \$1.50.

Additional descriptions of items at the show of the Automotive Equipment Association held at the Coliseum, Chicago, Nov. 9-14, will be found on the following page.

THE MARKET'S NEW OFFERINGS

The Items Presented on This Page Were Displayed at the Recent A. E. A. Show

CUNO ASH RECEIVER

A NEW ash receiver is being sold by the Cuno Engineering Corp., of Meriden, Conn., this device selling for \$1. It is finished in black and nickel and attaches to the instrument board by means of a clamp. It can be attached to either wood or metal instrument board and when not in use it can be pushed back out of sight under the dash. This concern also had on display a jobber's sales kit containing one of the ash receivers, also one each of the \$3, \$5, and \$7 cigar lighters, the latter being a combination unit which has a trouble light which can be applied to the same cord. A sample Christmas box is also included in this sales kit and shows the way these items are packed for the Christmas automotive trade.

FARRAN-OLD FAN BELT

FARRAN-OLD Dual-flex molded "V" type belt, The Farran-old Company, Akron, Ohio. This belt is now made with an endless stretch-proof core which it is claimed, will not break, stretch or deteriorate under any conditions.

(Continued from page 29)



Cuno Ash Receiver



S. & M. Road-Lite



Farran-Old Fan Belt

S. & M. ROAD-LITES

NOS. 85 and 95 S. & M. Road-Lites. S. & M. Lamp Company, Inc., 118 West Thirty-sixth St., Los Angeles, Cal. No. 85 and No. 95 Road-Lites have been added by the S. & M. company to supplement the No. 75 Road-Lite. They are similar to No. 75 but in larger sizes. The light is installed on the left spring horn of the car and illuminates the edge of the road. Finished in black and nickel. The reflector is 5 1/4 in. in diameter.

GLOBE TOOL BOX

A TOOL box for use on motor coaches is made by the Globe Machine & Stamping Co. of Cleveland, Ohio, it being known as model 8-88. It rests half on the running board and half on the front fender, being bevelled off at the forward edge so as to fit the fender and running board. The price is \$7.50 list.

Chicago's Fourth Annual Radio Show Displays \$250,000 in Sets

CHICAGO, Nov. 23.—Latest and most complete developments of the present-day radio industry were presented to the public beginning Tuesday of last week, at the fourth annual Chicago Radio Show in the Coliseum. The exposition continued up to 11 o'clock last night. More than 200 American and foreign exhibitors installed more than \$250,000 worth of radio apparatus in the booths, including every device and form of device used in reception of wireless.

About 90,000 square feet of space on the main floor of the Coliseum, its annexes and balcony was used to exhibit the marvelous growth of the industry in the last five years.

Special entertainment features exclusive of the show proper, were arranged for each day. Scientific demonstrations and lectures were given, and stunts such as lighting by radio of an ordinary electric bulb held in the hand; frying eggs on a cake of ice by radio and brewing tea in the same manner, were shown.

An amateur set building contest was staged, for which prizes totaling \$1,000 were awarded. A complete radio broadcasting station was operated in the balcony of the Coliseum throughout the week, some of the best known radio performers in America taking part in the afternoon and nightly programs.

Miss Rena Jane Frew of Beaver, Pa., winner of the Radio Diana contest under the auspices of the Radio World's Fair,

New York, conducted by the same management as the present show, was presented to the public. Mrs. Flossie E. Erickson of Bloomington, Ill., was announced as winner of the Radio Diana contest for the states of Indiana, Wisconsin and Illinois.

Special features of the show opened Tuesday night when Mayor William E. Dever of Chicago, Lieutenant-Governor Fred Sterling and other prominent officials assisted at the opening ceremonies. An elaborate musical program followed.

Wednesday afternoon the Chicago Rotary Club broadcast a special program. Thursday afternoon a Kiwanis Hour was the feature. The Lions Club took charge of the Friday afternoon program.

The exposition was open to the public from 1 to 11 p. m. daily. A private session of radio dealers was held each day from 11 a. m. to 1 p. m. Conferences between dealers, jobbers and manufacturers of radio apparatus were arranged during these periods.

The exhibit was the official show of the Radio Manufacturers' Association, Inc., and those who were in charge of the management of the show included:

U. J. Herrmann, managing director; G. Clayton Irwin, general manager; Charles Glaser, executive assistant; A. Ries, in charge of registration; Charles H. Porter, director of publicity; A. Foster George, assistant director of publicity, and J. Elliott Jenkins, technical director.

Three hundred silver cups and awards were given by the management to the winners of the various contests.

Radio Battery Chart

A CHART which gives the correct type and size of battery to be used with every make and model of radio set as recommended by the set manufacturer, is published by U. S. Light & Heat Corporation, Niagara Falls, N. Y., and will be sent free on request.

For years while radio experts were working on the development of tubes, hook-ups and tuning devices, USL engineers devoted their attention to the correct battery for best reception. The correct battery balanced with a set is as important as the correct grade of oil used in automobiles.

King Neutrodyne Receiver

THE King Neutrodyne Receiver is designed and built by the King Quality Products Co., Buffalo, N. Y. This is a five tube set and a plunger type switch permits the use of four or five tubes as desired. There are three separate tuning controls and in the model 25 S an Amplion reproducer is a built-in part of the receiver. A double metal panel and condenser shield eliminates capacity effects between the condensers and between the operator and the instrument.

EDITORIAL

Tires in 1926

THE price of crude rubber remains high and the supply of the product is said to be inadequate. The British restriction policy at last has begun to restrict and from present indications the automobile industry will be confronted with a serious situation in regard to tires in 1926. American interests that have set out to grow their own rubber will not get into production on an appreciable scale for some years. Meanwhile it will pay the industry to do all in its power to conserve tires. Casings should not be too quickly discarded. An inexpensive repair frequently will greatly prolong the life of an otherwise good casing. A tube frequently is discarded as leaky when what is needed is a new valve core at a cost of about six cents. New flaps, boots and other accessories can be used to advantage in getting the utmost mileage out of tires. And drivers should be urged to use care in driving over rough roads so as not to unduly damage their tires. The hoarding of tires by consumers is not to be encouraged. It merely serves to increase the apparent shortage of the product and tends to drive prices upward. Conservation of tires will go a long way toward relieving any threatening crisis in the tire supply.

Just because 1926 promises to be a year of grand opportunity—don't roll over on the other side now and sleep until Jan. 1.

Get Your Share

NEXT year is to be a year of much educational campaigning in the automotive field. Associations will strive to educate merchants as well as ultimate consumers and factories will concentrate efforts along several avenues—education for their merchandising forces and education for the person who eventually takes their products off the hands of the retail dealer.

All signs indicate that 1926 will be a year in which much money will be spent by the American public and the industry which sleeps little at the switch is the one which will come in for its due share of the profit distribution.

Automotive retailers will share in 1926 profits in proportion to their individual alertness. There is plenty chance for the dealer to tune in locally on national advertising campaigns relating to his products and now is the time that he should begin to think about his plans in this connection. Advertisements in the dealer's local newspapers will put extra emphasis on the national advertisements and remind the public that those items dealt with in the national advertisements are to be found at his place of business. Educational promotion is "advertising" in one form or another and the advertising copy which "informs" and enlightens is a type that gets results. The

big thing next year will be to cash in to a maximum extent on the big volume of general public buying and good promotional effort is an effective route to this end.

The same knife which prunes the needless overhead is the one which cuts the melon.

Motorized Prosperity

STUDEBAKER'S president, A. R. Erskine, set forth some facts in an address before the recent convention of finance companies in Chicago which may not set well with the long-faced alarmist who is inclined to believe the automobile has come into our economic life as an unfortunate curse of extravagance. You meet this type of citizen every once in a while. He tells you the country can not possibly hope to thrive and continue diverting so much of its wealth to the purchase and operation of what he persists in calling "pleasure cars." He will tell you that too many people are giving up actual necessities of life to keep their cars going. He wonders shudderingly "how they get by." MOTOR AGE's readers, alas, know this type of citizen well.

Then from Mr. Erskine:

"The post-war prosperity of the United States has amazed the world. We are getting along pretty well today. Savings bank figures disprove claims that the automobile is absorbing all the money in the country. Figures supplied by the Controller of the Currency show for the decade from 1914 to 1924 the number of savings banks decreased from 2,100 to 1,603, but the number of depositors increased from 11 to 14 million, the total deposits from 4.9 to 8.4 billion and the average amount per depositor from \$444 to \$605. Life insurance policies outstanding increased during the same decade from 39 to 86 million, the amount of insurance from 21 to 64 billion, and the average policy from \$545 to \$724."

Prosperity is more evenly distributed in America than in any other country of the world and people on the whole are more comfortable than ever before. The masses are enjoying conveniences unheard of, in a popular sense, in previous times. More people are being added to the long list of car owners day by day and more people day by day are putting surplus money in savings banks and profitable investments.

We might tell our long-faced friends that the automobile has been one of the foremost agencies in bringing about this happy condition. From time immemorial the big economic problem has been that of speeding up transportation and inter-communication. The motor vehicle has speeded up and greatly enlarged the nation's earning capacity and the additional wealth has made it possible for still others to own automobiles as well as improve the financial status in other respects.

Production Continues at High Rate

Stocks of Cars on Dealers' Floors Are Gaining Rapidly

Volume Fails to Reach Point Where it Becomes Unwieldy, However

PHILADELPHIA, Nov. 25.—Dealer stocks of new passenger cars have been increasing steadily the last two or three weeks but they have not yet become unwieldy. Production is still at an unusually high rate for this time of year and sales have not held up correspondingly.

There are indications that the stock on dealers' floors increased more than 100,000 during October and that at least as large an increase can be expected in November provided production maintains its present pace until the end of the month.

These increases are in line with sound practice thus far as dealers always have stocked extra cars in the winter months so that they may give immediate delivery on any model called for. The dealer is in a better merchandising position that he would be otherwise.

Manufacturers are expected to shut down production in time to prevent any serious overstocking. The retail financing situation is causing concern particularly on the Pacific Coast where extremely liberal terms are being extended in the case of one popular line of cars at least, despite efforts of several large manufacturers and some of the banks to keep credit terms on a sound basis. Local competitive conditions still rule.

The next thirty days will see even more strenuous competition in this field. The effect of liberal new car instalment terms on used car buying is beginning to become more pronounced in some sections with manufacturers and dealers giving serious thought to disposition of the used car problem in the next six months.

One price cut was announced last week and rumors of several others are going through the industry despite the fact that material prices are on the upgrade and that wage rates have not fallen. Materials such as sheet steel and hardwood are higher now than they were a month or two ago and tires are considerably higher, though most of the manufacturers have their current commitments covered by contracts made at lower levels than are now in effect.

G. M. BUYS VAUXHALL

NEW YORK, Nov. 21.—Alfred P. Sloan, Jr., president of General Motors Corporation, announces that negotiations between that corporation and Vauxhall Motors, Ltd., of Luton, Eng., were finally consummated November 16, through

the approval of the plan by Vauxhall stockholders and that the board of directors was increased from four to seven, the additional three representing General Motors. Mr. Sloan added that the English company would continue exactly as at present, under the same management, with no change in general operating policies.

DENIES PARTS RUMOR

NEW YORK, Nov. 21.—The rumor that United Motors Service would shortly take over the distribution of parts for General Motors passenger car units was officially denied by John Pratt of United Motors Service, Inc.

DODGE BROS. BUYS GRAHAM

NEW YORK, Nov. 23.—Clarence Dillon of Dillon Read & Co. today announced that the Dodge Brothers Motor Car Co. has purchased, for cash, Graham Bros., truck manufacturers. The amount of cash involved was not made public. Ray A. Graham confirmed the announcement. No change will be made in Graham Brothers personnel and distribution will continue through Dodge Brothers dealers. Graham has been steadily purchasing Dodge Brothers common stock and has declared intention of increasing his investments.

Frederick J. Haynes, president of Dodge Brothers, has been made chairman of the executive committee, succeeding Edwin G. Wilmer, who has been named chairman of the board. Ray A. Graham, secretary of Dodge Brothers, is now general manager and Joe B. and Robert C. Graham, president and vice president respectively, of Graham Brothers, now become members of the Dodge Brothers board.

Mack Trucks Declares 50 Per Cent Stock Dividend

NEW YORK, Nov. 21.—Mack Trucks, Inc., has declared an extra dividend of 50 per cent in common stock payable Dec. 31 to holders recorded Dec. 15 and Chrysler Corp. has called a stockholders' meeting for Dec. 18 to ratify the proposal to split up its common on a four for one basis.

Mack directors took no action as to the probable cash dividend policy after the increase in capitalization nor did the Chrysler directors inaugurate cash disbursements on its common.

The Mack dividend of \$1.50 payable Dec. 31 applies only to common now outstanding. After the 50 per cent stock dividend is paid there will be about 673,000 shares outstanding. With no departure from the present dividend rate of \$16 per year stockholders on the enlarged capital would receive \$9.

A. E. A. Opens Merchandising Campaign in New England

Three Meetings Are Held During Week, With Prominent Speakers Taking Part

CHICAGO, Nov. 23.—The first big effort in the Automotive Equipment Association's new merchandising campaign designed to keep dealers busy this winter, was carried out last week in New England and in New York State. This campaign, with "Show 'Em and Sell 'Em," as its slogan, was announced at the A. E. A. convention in Chicago early in November.

Three meetings with the A. E. A.'s battery of speakers on the platform made up last week's campaign.

The first meeting, for jobbers and their salesmen, was held Thursday night at Hartford. The committee in charge was composed of J. P. Sprague of L. L. Ensworth & Son, Hartford; L. H. Woodruff of C. S. Mersick & Co., New Haven, and Frank Waters of Tarbell-Waters Co., Springfield, Mass. The speakers were Arthur R. Mogge, merchandising director of the A. E. A.; R. W. Proctor, sales manager of Black & Decker Mfg. Co.; George W. Fleming, president of Fleming Machine Co., and A. V. Comings, editor of Automobile Trade Journal.

At a meeting at Boston Friday night the speakers were Mr. Mogge, Mr. Proctor, Mr. Fleming and Ray W. Sherman, editor of Motor. The Boston meeting also was for jobbers and their salesmen and the attendance was over 200. The committee in charge of this meeting was composed of Elmer Littlefield of Wetmore Savage Automotive Equipment Co.; A. S. Hunt of Linscott Supply Co., and Frank Murray of Post & Lester Co., all of Boston.

The third meeting was held at Syracuse, N. Y., Saturday night and was for retail dealers of whom 75 were in attendance. It was arranged by the Onadaga Auto Supply Co. The speakers were the same as at the Boston meeting with the addition of Ralph C. Rognon, proprietor of a large independent repair shop in New York City.

From start to finish there was no apoplexy or hokum handed out at these meetings. And the listeners seemed to appreciate the points brought out by the speakers. The program was so well balanced there was nothing tiresome or monotonous about it, and each speaker talked quickly and carried his audience along so that they got the points.

In his talk Mr. Mogge brought out many interesting things, but one in particular stood out. Taking some recent advertisements of leading car manufacturers, he showed that at last the big

(Continued on Page 33)

N. A. F. C. Reaffirms Stand on Ideal Car Financing Terms

Delegates Bring Up Subject of Rates, Some Declaring Unfair Competition Is Rife

CHICAGO, Nov. 21.—Members of the National Association of Finance Companies, at the convention held in the Hotel Sherman here Monday and Tuesday, reaffirmed the resolutions of a year ago expressing the conviction that automobile retail times sales should be on the basis of one-third down and the balance in twelve equal monthly instalments. This action was taken after efforts to modify the resolutions to cover some of the practices now widely in effect had failed.

The delegates to the convention were much more eager to discuss rates than terms. It was brought out that the new arrangements made by several automobile manufacturers with finance companies carried rates that the majority of the companies felt they were unable to meet. Declaring that this situation was one that would in the long run have a bad effect on automobile sales, the delegates passed a resolution calling for the appointment of a committee to call upon manufacturers and set before them the factors entering into financing rates and the results that might be expected to follow from the establishment of unprofitably low rates.

Something of a sensation was caused when E. S. Hare, vice-president, Hare & Chase, Inc., said:

"The vital point today is the question of rates. In most cases where factories are advertising low financing rates they are deceiving the public because they are subsidizing the finance company and absorbing part of the cost in the list price of the car. We know the factors that go into financing rates and we know what are fair rates."

No reply was made to these charges, but inquiry developed that by no means all the companies not allied with factories believed that subsidies were granted. However, the statement was generally made that even the big financing companies could not make a legitimate profit and obtain the necessary capital for expansion on the rates under the factory plans.

Among the speakers who strongly urged adherence to the standard of one-third down and the balance in twelve payments were Henry Littleton, president, Commercial Investment Trust, Inc., New York; C. E. Gambill, president, National Automobile Dealers' Association; A. W. Newton, vice-president, First National Bank of Chicago, and A. R. Erskine, president, Studebaker Corp. of America, Mr. Erskine adding that what the manufacturer was interested in was low rates to the consumer, which entailed standard terms and only a fair profit to the finance company. Mr. Gambill favored no-recourse plans as fairer to the dealer and Mr. Newton and Mr.

Erskine were inclined to favor recourse.

A discussion on used car paper was held, with A. J. Morris, president, Industrial Acceptance Corp., New York, taking the recourse side and Mr. Hare the no-recourse side.

New directors elected were: Mr. Hare; F. R. V. Williams, Finance & Guaranty Co.; V. G. Dunnigton, Manufacturers' Finance Co.; A. E. Holton & Co.; D. L. Barnes, American Investment Co.; E. W. Carter, Carter Guaranty Co.; L. M. Rocreford, Northern Finance Corp., and O. Rey Rule, Pacific Finance Co.

The membership now stands at 265, as compared with 155 who signified their desire a year ago to join the new association.

A. E. A. Opens Big Campaign

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men were thinking of something besides beauty and speed. He read extracts to show that the something else was service. Tying this up with his talk he outlined why it seemed a good thing to have the jobbers and salesmen carry the idea out to the dealers to make them see how they can sell service on a profitable basis. He drew a chart of 27 service shops covering a period of 12 months and showed that the peak time for keeping the place going 100 per cent was less than three months. From that he deducted that there was something wrong fundamentally in their operation, and that they were not reaching car owner readily.

Mr. Sherman dealt with the orgy of Christmas buying. It was interesting all through because he showed the senseless plans of millions of people who begin December 1 with a list of names and pocketful of money, fighting and worrying until Christmas Eve, when they ejaculate, "Thank God, that's done!" and wonder how they are going to meet their bills when the New Year arrives.

Then he explained that for about the same price buyers paid for useless gifts they could get the practical automotive articles—if the dealers taught the buyers to do it.

Some interesting comparative figures were given by R. W. Proctor. He showed, for example, how Packard after investigating New York, Philadelphia and Springfield branches as to service had jumped the profits from six tenths of one per cent to more than 6 per cent in a couple of years.

Mr. Fleming summed up some of the points brought out by the other speakers. Then he stated that the salesmen should be more than mere order takers. He advised them to become salesmanagers for their groups of dealers by sitting down and analyzing their problems.

Mr. Comings gave many examples of how dealers have increased their business in the winter months.

Arrangements Started for Detroit's Automobile Show

Spaces Already Reserved for 34 Makes of Passenger Cars and 12 Commercial Lines

DETROIT, Nov. 21.—Preparations for Detroit's Silver Anniversary Automobile Show to be held from January 23 to 30 have started with the signing for space reservations by representatives of 34 different makes of passenger cars and 12 lines of commercial vehicles and buses. The demand for space for the 1926 show is far in advance of any previous years. The show will be under the auspices of the Detroit Automobile Dealers' Association, and will be held in Convention Hall.

Arrangements have been made for 50,000 additional square feet of space which brings the total combined area up to 200,000 square feet.

Besides showing passenger cars and buses, commercial vehicles, accessories and other equipment pertaining to the automobile trade will be on display. Motorboats will be an added feature as will a model repair shop in full operation.

During the show, the annual convention of the Society of Automotive Engineers and of the Michigan Automotive Trades Association will be held. Other organizations directly connected with the automotive industry are expected to hold meetings during show week.

The makes of passenger cars for which space has already been reserved include: Ajax, Buick, Cadillac, Chandler, Chevrolet, Cleveland, Chrysler, Dodge, Flint, Ford, Franklin, Hupmobile, Jewett, Jordan, Kissel, Lincoln, Locomobile, Marmon, Nash, Oakland, Oldsmobile, Overland, Packard, Paige, Peerless, Pierce-Arrow, Reo, Rickenbacker, Rolls Royce, Star, Studebaker, Wills Ste. Claire, and Willys-Knight.

Space reservations for the following commercial vehicles have been made: Autocar, Chevrolet, Denby, Dodge, Ford, Federal, G. M. C., Gotfredson, Graham, Kelly, Pierce-Arrow and Reo.

NEW HUPP FINANCE PLAN

NEW YORK, Nov. 21.—The Hupp Motor Car Corp. of Detroit has completed arrangements with the Commercial Investment Trust Co. of this city for a plan to finance Hupp sales to the plan recently announced with reference to Dodge Brothers cars. Details as to the rates which will operate under this plan are not yet available but they are described as low in comparison with prevailing rates. One feature of the Dodge Brothers plan, which is understood to apply to the Hupp plan, is that in contrast to the Chrysler-Palmetto plan purchasers are not required to finance their purchases through the Commercial Investment Trust Co. or to restrict themselves to the insurance arrangement provided by the plan.

Brilliant Colors Are Principal Features of New York Salon

Plumage of Birds Used by Coach Builders in Development of Distinctive Hues for 1926 Custom-Built Cars—Interiors Harmonize

COACH builders exhibiting at the New York Salon in the Hotel Commodore which closed November 23, used colors in more profusion than ever before. Reds, greens, blues and yellows in all their combinations made the show the most colorful of its kind ever held.

Three, four and more colors were used on the same body in ground colors, moldings, stripings, and trimmings in a manner that a few years ago would have been declared revolutionary. Coach makers have been trying for individuality in their jobs, and if appearance counts for anything, they have attained it.

Ninety-seven cars were on display representing the work of 13 body builders and chassis makers. Body builders displaying were: Brewster, Brunn, Derham, De Causse, Dietrich, Fisher, Fleetwood, Holbrook, Judkins, LeBaron, Locke, Rollston and Willoughby. Chassis exhibited include Amilcar, Brewster, Cadillac, Cunningham, Duesenberg, Franklin, Isotta-Fraschini, Lancia, Lincoln, Locomobile, Marmon, May-

bach, Mercedes Minerva, Packard, Pierce-Arrow, Renault, Rolls-Royce and Wills Ste. Claire.

Cabriolets or town cars were the most popular models for display, there being 25 of these shown. Limousines came next, with considerable numbers of coupes, sedans, roadsters and phaetons—the latter being mostly of the so-called sport type.

A distinct trend was shown toward more originality in color effects. Many fenders were colored to harmonize with body colors, and colored tops were quite numerous. The upper structures were given more color than ever before. In a number of cars the window frames were painted the same color as the body. Wheels, in many cases, were colored, sometimes in a harmonizing shade of the body color and sometimes in a contrasting color.

As might possibly be expected in cars

whose owners can well afford to have them refinished frequently, varnish finishes predominated although there were a number of pyroxylin jobs, either dull finish or polished, on display. Glossy finishes evidently are still in considerable demand.

An interesting development in body work was the treatment of belt lines and moldings on the Salon exhibits. Some body builders, notably Fisher, still keep to the double belt line in which the upper belt ends at the windshield, while the lower one extends to the radiator. A

purpose. As mentioned before, black wheels were comparatively few, nearly all jobs having colored running gear. The fenders were much wider than before. This, of course, is due, to some extent, to the use of balloon tires, but many jobs were fitted with fenders wider than would be necessary under usual practices. Metal used for fenders was of much heavier gage than before.

Upholstery materials were varied, with broadcloth predominating. Leather in the soft finishes which have been developed by tanners for automotive up-

holstery was used considerably both in open and closed models. One car, a Pierce-Arrow, had fabric upholstery with leather binding and edges, the first time this practice has been used by American manufacturers.

A number of coupe, sedan and limousine bodies were without outside sun visors, the roof ending abruptly and giving the job the appearance of a cabriolet or town car.

All the Cadillacs displayed had two interesting chassis features. Radiator shutters were

painted the same color as the body. On either side of the body, just behind the front fenders, where many cars carry spare tires, was a box sunk into the running board. On one side the battery was carried and the other box served as a tool contained.

The use of several steps in the construction of the window frames was another feature used on a number of cars. This method graduates the jump between the thickness of the body below the window and the window itself, and makes a very pleasing change. In a number of cars the hood louvres were formed in a panel raised above the surface of the hood. Many of the louvres were striped.

Roadsters and the front doors of cabriolets were, in many instances, fitted with windows which could be lowered entirely out of sight. Side screens to operate with the front doors were furnished on many jobs. Nearly all cars



Interior View of New York Salon.

large number of other makers, however, have given the belt a different treatment, if not eliminating it entirely.

Several jobs extend the belt line into a raised panel over the top of the hood, ending in an arrow effect at the radiator, following the practice introduced in this country by Duesenberg several years ago. At least one builder followed this practice, but ended the raised panel at the rear of the hood. Many cars had the windows outlined in molding but used no horizontal lines. Either one or two lines of striping, usually in light color, were generally used on moldings.

Wire wheels were furnished as standard equipment on about 50 per cent of the cars shown with artillery type on 33 per cent and disk on the remaining exhibits. Although a considerable number of cars carry spares at the rear, an increasing number utilized the space directly behind the front fenders for this

were fitted with distinctive radiator caps, while heat indicators were placed on the instrument board.

Considerable effort has been expended, apparently, in an attempt to decrease the size of body pillars. De Causse bodies on Franklin chassis had a front door and body pillar arrangement which was noticeably narrower than is ordinarily found in composite body construction. Much the same end was achieved by several other builders, the bodies by Brewster being particularly satisfactory in this respect.

Although some attempt has been made in the past to have the upholstery match the body colors, much greater progress was evident in this direction this year than ever before. Some of the colors with which bodies were painted must have been particularly hard to duplicate in fabrics, but with few exceptions all upholstery either matched or was in very close harmony with the principal body color used.

A Brunn-Cadillac cabriolet had wine-color body below the belt and same color for window frames. A vermillion belt ended in an arrow head at the rear of the hood. A Dietrich town car on Packard chassis was finished with bright green body and window frames, black molding and white striping. A Willoughby-Wills Ste. Claire town car was painted cerise with vermillion stripes.

A sport phaeton by Fisher on Cadillac chassis was painted a bright red with black molding, fenders and trim. A Holbrook cabriolet on Packard chassis was painted maroon with bright red wheels and black fenders. The lower part of the inclosed portion of the body was covered with wicker.

In a LeBaron roadster on Mercedes chassis the body was cream with green fenders and green belt ended in a raised hood panel and vermillion striping. A Cunningham limousine was painted a bluish gray with black fenders, cream wheels, black top and molding and light colored stripes. A Fleetwood body on Isotta-Fraschini chassis was painted gray-blue with cream striping below the belt and with the portion above the belt finished in polished aluminum.

A Rolls-Royce sport phaeton was solid black below the belt line and polished aluminum above. A Minerva brougham had cream-colored body, green fenders, top and trim, black wheels and polished aluminum cowl and hood. Another Fleetwood body with Isotta-Fraschini chassis had blue body, window frames and wheels, black fenders, top and molding and polished aluminum hood.

An interesting body was shown by Brewster on a Rolls-Royce chassis. The windshield was divided vertically with only the left half adjustable. Instead of an outside sun visor, an adjustable curtain mounted on a rigid frame was placed on the inside where it could be easily operated from the driver's seat. Leather was used on the inside of doors for trim and also for facing the seats. The roof structure was open, this last item being also used on several other

bodies. Adjustable front seats were furnished with the adjusting levers projecting between the seats.

Twelve Lincolns were shown, in all of which very striking color effects have been obtained. It is said that the color schemes used are based upon the work of Mother Nature, the master artist, and each car reflects the colorful plumage of a bird.

The twenty-first annual Automobile Salon closed with a new sales record in excess of \$1,000,000 for the full week. Nearly 60 per cent of the total represents coachwork as distinct from the sales of chassis.

In a large measure this remarkable sales record is attributed to the new designs in custom bodies and especially to the combinations of brilliant colors which are so effectively used both for exterior finish and interior decorations. Prosperous conditions, so general in all lines of business, were, of course, an important factor.

As a result the demand for exhibition space at the forthcoming Chicago Automobile Salon far exceeds the capacity of the Drake and a limit has been set on the number of cars each exhibitor may show. This is the first time this has been necessary in the case of the Chicago Salon and attests the increased interest in that territory for high priced chassis and fine custom coachwork.

That the year 1926 will be a banner one for motor cars de luxe was the prevailing opinion of the salon exhibitors when they gathered at a dinner on Thursday evening given by President

Charles M. Fleischman of Locke & Co. Plans for increasing factory capacity was the main topic of discussion, and the spirit of co-operation was more pronounced than ever.

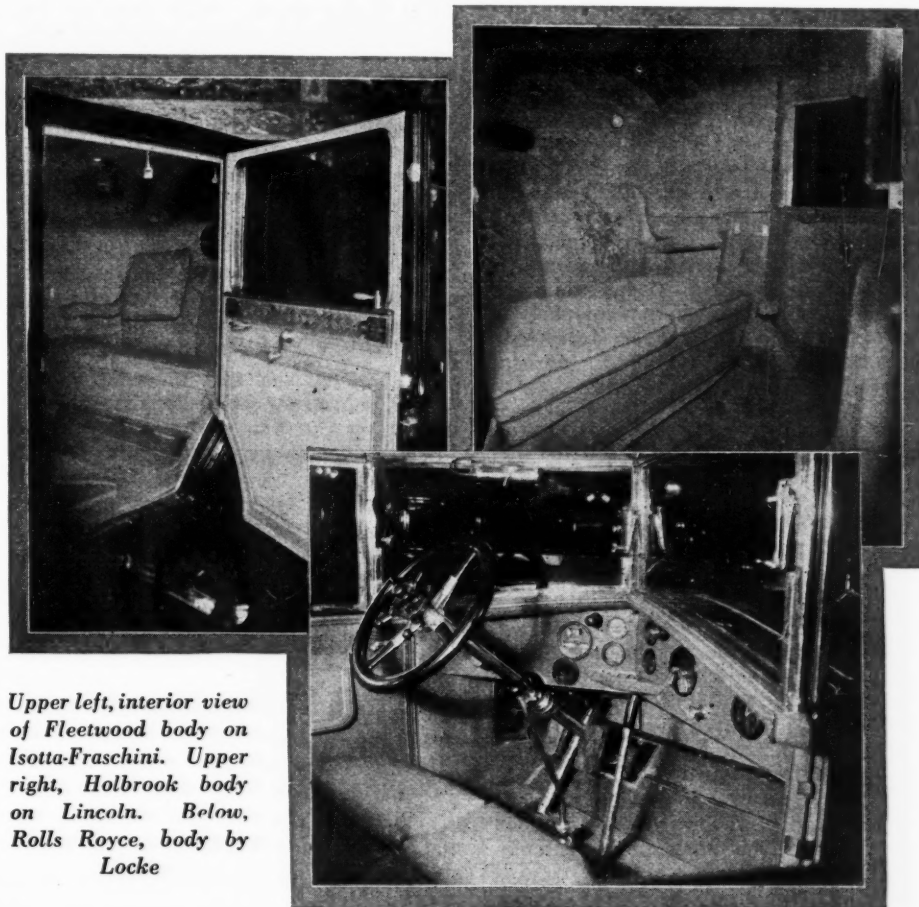
While excellent business was done by all the salon exhibitors it seemed that the higher priced cars were more eagerly sought after and the importers of European cars were particularly pleased with the results of this salon.

INSPECTS U. S. ROLLS-ROYCE

NEW YORK, Nov. 21.—Claude Johnson, managing director of the English Rolls Royce Co., has come to the United States to discuss with his associates the possibility of their entering actively into the airplane production field and to make his periodical inspection of the American works of the company at Springfield, Mass. He said that the new types of airplane engines to be produced by Rolls Royce in England would be revolutionary in design and performance.

THORNE MADE SALES HEAD

KOKOMO, Ind., Nov. 21.—C. J. Thorne, who has been connected with the sales department of the Turner Manufacturing Co. for the last four years, has been appointed general sales manager of the concern, according to an announcement from Earl Turner, president. The new sales manager first became connected with the Turner company in the capacity of traveling sales representative, later taking a position at the plant at Kokomo.



Upper left, interior view of Fleetwood body on Isotta-Fraschini. Upper right, Holbrook body on Lincoln. Below, Rolls Royce, body by Locke

Cadillac Is Spending Three Million in Plant Expansion

New Project Will Make Total of \$5,000,000 Spent for Recent Developments

DETROIT, Mich., Nov. 21.—Three million dollars is being spent by the Cadillac Motor Car Company for additions to its manufacturing and retail facilities in Detroit. Ground was broken yesterday at the company's Clark Avenue plant, as the first step in preparing for the present expansion. Announcement of the plans was made by Lawrence P. Fisher, Cadillac president.

The new developments will include assembly and administration buildings at the plant and additions to its retail and maintenance buildings on Cass and Jefferson Avenues. Previous developments in the present schedule have been the completion of the new brass, aluminum and iron foundries and the installation of manufacturing equipment. Together the improvements will cost \$5,000,000.

Completion of the new administration building will release space in the manufacturing buildings now occupied by the general offices. The assembly unit 750 ft.x125 ft. will necessitate a complete rearrangement of the interior of the manufacturing buildings for increasing production. In October, 1925, production amounted to 3200.

The present plant when completed will be in remarkable contrast to the Cadillac plant of 1921. Then it was scattered throughout the city located in 77 buildings.

RUBBER CO. TO RESUME

AKRON, O., Nov. 21.—Completion of a \$1,000,000 new financing program will enable the American Rubber & Tire Co. to increase its tire manufacturing operations, it is announced by President F. C. Snyder. Operations were resumed last week after a shut down of the plant for the last four months. Orders on hand are sufficient to enable the company to run for two months, Snyder stated, and preparations are being made to increase working forces.

Several Changes Are Made In U. S. Automotive Bureau

WASHINGTON, Nov. 21.—Several important changes in the automotive division of the U. S. Department of Commerce were announced here this week by Acting Chief I. H. Taylor.

F. W. Barker, who has been with the division for about a year, has been appointed to succeed Palmer Elder, as chief of the research department, Mr. Elder resigning to go with the Dodge Brothers Motor Company.

N. C. S. Schuette, a graduate of the foreign service school of Georgetown University, will be added to the automotive staff, as assistant to both Mr. Barker and to T. Houghton, of Grand Forks,

North Dakota, who has been appointed to direct the work of the foreign trade manual.

The appointment of a successor to Percy Owen, formerly chief of the division, who resigned to take over the foreign sales of Dodge Brothers, has not as yet been decided upon by Assistant Secretary J. Walter Drake. The appointment is not looked for, according to Mr. Drake, until about the first of January.

New Model 90 Locomobile

(Continued from page 21)

A line of two open and six closed body types is being offered. The open models have hand-buffed leather upholstery and Pantasote tops, while the closed models are all trimmed in broadcloth.

All bodies are of composite construction, with ash frames and sheet aluminum paneling. All doors are of the flush type, in both the open and closed types.

One feature of the closed models is the windshield, which is divided along the vertical center line so as to make virtually two individual shields. Very light frames of bronze are used for the glasses, so as to detract as little as possible from the field of vision. These frames are countersunk or tongued and grooved on the edges to give a rain proof effect.

On the closed models, instead of having the conventional vizard in front of the windshield, a movable vizard is provided back of the shield. This rolls up like curtain when it is not needed.

BUICK PLANS EXPANSION

FLINT, Mich., Nov. 21.—Two million dollars has been appropriated by the Buick Motor Car Company to increase the daily output of Buicks to 1,200, President Harry M. Bassett announced today. The additions to the plant and the installation of the equipment will begin immediately.

MOON CORRECTS PRICE

ST. LOUIS, Nov. 21.—Moon Motor Car Co. announces a correction in the price quoted on the new seven-passenger De Luxe Diana sedan recently introduced. The price of the sedan is \$2695, f.o.b. St. Louis, but it was announced as \$2685, f.o.b. St. Louis.

N. A. D. A. DATES SET

ST. LOUIS, Nov. 21.—The following dates for sales congresses have been assigned by N. A. D. A.

St. Louis, Mo., Dec. 14.

Milwaukee, Wis., Dec. 15.

Chicago, Ill., Dec. 16.

Indianapolis, Ind., Dec. 17.

Columbus, Ohio, Dec. 18.

C. A. Vane, Lynn M. Shaw, A. R. Kroh and H. D. Bullock of the N. A. D. A. staff will be on all of the above programs.

Registrations Show Trend Toward Established Makes

Factory Analyses Demonstrate That Public Is Buying Less of "Miscellaneous" Class

DETROIT, Nov. 21.—From November 1924 up to the present time, the automobile buyer has shown a decided trend toward purchasing passenger cars manufactured by companies which are regarded as the leaders in their respective fields. The car which in registrations is labeled as miscellaneous is gradually losing out, the percentage being quite noticeable as compared to a year ago.

November, 1924, the buyers of these miscellaneous makes in the various states were considerable, enough so as to cause the manufacturers to lay plans to get their patronage. Today they have started to swing over so that the lesser known makes are not enjoying the volume of sales they did in 1924.

This trend may be summarized as follows; the buyers in each class have selected what they consider the leaders in that class and are buying accordingly, other makes which are in the same class are gradually losing out. This is not only true of the lower priced field but of every field.

This trend is shown quite accurately in reports gathered by the various factories and accounts to some degree for the unusual success that certain companies have had this year. What the ultimate outcome may be is a debatable question but there is no denying that the trend is definitely towards the more established makes.

Limousine Body Co. Is Given Auburn Contracts

KALAMAZOO, Mich., Nov. 21.—The year 1926 promises to be the biggest in the history of the Limousine Body Company from the standpoint of production. A minimum average of 35 bodies a day for the next 12 months is the program laid out and the entire equipment of the plant is being entirely rearranged and realigned for that purpose.

J. D. Bobb, president of the company, reports that a contract has been closed to build exclusively for the Auburn Motor Car Company, Auburn, Ind., sedan bodies for the new Auburn "4" and brougham bodies for the Auburn "6" and "8" models.

KENNEDY BUYS PLANTS

STREATOR, Ill., Nov. 21.—Following negotiations lasting several weeks, the buildings occupied for many years by the Halladay automotive accessory manufacturing company and which have been idle since that concern moved to Decatur because of labor troubles, have been purchased by the Kennedy Manufacturing Company, maker of automobile and truck bodies. The price for the land and structures was said to be \$40,000.

New Development in Car Lighting Shown to S. A. E.

General Motors Official Explains to Detroit Section His Device for Stopping Glare

DETROIT, Nov. 21.—While a new development in headlamp engineering was disclosed and other methods of combating the menacing glare of headlamps were discussed at the Detroit section meeting of the S. A. E., the consensus indicated that present forms of headlamps when properly adjusted were satisfactory and that rigid enforcement of the headlamp law was the best solution of the problem at this time. More than 200 were present at the meeting and demonstrations which were held in the General Motors Building.

Henry M. Crane of the General Motors Corp., in presenting the paper of the evening entitled "A Possible Solution of the Headlight Problem," demonstrated the practicability of his scheme by having two automobiles, one mounting the conventional lamps and the other the suggested type, facing each other in the meeting hall.

The salient feature of Mr. Crane's device lies in its low cast, which is no greater than the simplest forms of headlighting now employed. Furthermore, it is possible to install the arrangement on any cars now in operation.

Using Crane's arrangement, the driver has the road illuminated in front of him when he responds to the dimming signal of the approaching driver, giving him full vision ahead and without causing discomfort to the operator. This is accomplished by rotating the right hand lens nine degrees in the proper direction to give a low light on the left and a high light on the right, and the mounting of special switch for heavily dimming the left hand light.

Thus when two cars equipped with this system approach one another with their left lights dimmed there is plenty of light on both sides of the road furnished by the two right lamps respectively. More than 50 per cent of the glare is reduced with this arrangement, it is claimed. It was also suggested by Mr. Crane that to prevent the direct rays from the filament striking the eyes that the conventional type of bulb should be frosted over in the front. One of the bulbs of this type was installed on the cars and others were available for inspection.

Car Builders in Germany Arrange Payment Terms

WASHINGTON, Nov. 21.—Negotiations are going on between the Reichsbank and the German automobile industry for the use of Reichsbank credit accounts in selling German automobiles on the installment plan, the Automotive Division of the Department of Commerce is informed through consular advices.

It is stated that 80 per cent of the automobile industry has concluded an

First New G. M. Car Sold

PORTLAND, Ore., Nov. 21.—To H. R. Taylor of the R. Knox Roberts Company goes the honor of making the first sale in this territory of the new car built by General Motors. The purchaser is E. C. Lewis, 2102 Sandy Boulevard, Portland, who bought a coach model without knowing the name or price but is satisfied that his confidence and expectations will be fulfilled.

agreement with a German-American Sales and Finance Company whereby this company takes over the financing of automobile sales.

The total sales price will be paid to the delivering manufacturers and the risk of payment taken by the financing company. In accordance with this agreement, the individual manufacturers have agreed to a certain production syndicate on the basis of which credit extension will be apportioned.

HIBBARD JOINS RICKENBACKER

DETROIT, Nov. 21.—J. L. Hibbard, formerly foreign sales manager of the Studebaker Corp. of America and foreign and district sales manager of the Cleveland Tractor Co. has been appointed assistant sales manager of the Rickenbacker Motor Company. He will also have charge of export sales. Mr. Hibbard was with the Studebaker Corp. from June 1913 to 1918, resigning to go with the Cleveland Tractor Company. He was at one time general manager of the Maxwell-Chalmers Company of Canada.

DENNY INSPECTS COAST

SAN FRANCISCO, Nov. 21.—M. R. Denny, assistant general service manager of the Studebaker Corporation, spent part of November in San Francisco, on an inspection trip of west coast dealers and distributors.

MURPHY IS PROMOTED

ST. LOUIS, Nov. 21.—William P. Murphy has been appointed retail sales manager of the De Luxe Automobile Co., Oldsmobile distributors in the St. Louis district according to an announcement of George T. Willett, general manager. Charles E. Moore, who succeeded Murphy several years ago as head of the parts department has been appointed head of the used car department.

ZINTL JOINS DU PONT

WILMINGTON, Del., Nov. 21.—William M. Zintl, of the advertising sales department of the Curtis Publishing Company, has been appointed director of sales of the paint and varnish division of the paint, lacquer and chemicals department of E. I. du Pont de Nemours & Company. He will assume his new duties shortly.

General Motors October Sales Gain by 40,336

Total of Passenger Cars and Trucks Delivered by Dealers Is 86,339 in Month

DETROIT, Nov. 21.—Sale of General Motors passenger cars and trucks by dealers to users in October totaled 86,339, as compared with 48,003 in 1924, an increase of 40,336.

The sales of passenger cars and trucks to dealers by the different manufacturing divisions during the past month totaled 95,703, almost double that for October 1924. It created another new sales record. The following tabulation shows monthly sales of General Motors passenger cars by dealers to ultimate consumers and sales by the manufacturing divisions of General Motors to their dealers.

Dealers Sales to Users

	1925	1924
Jan.	25,593	33,574
Feb.	39,579	50,007
Mar.	70,594	57,205
April	97,242	89,583
May	87,488	84,715
June	75,864	65,224
July	65,872	60,836
Aug.	78,638	54,842
Sept.	83,519	48,565
Oct.	*86,339	46,003

Divisions Sales to Dealers

	1925	1924
Jan.	30,642	61,398
Feb.	49,146	78,668
Mar.	75,527	75,484
April	85,583	58,600
May	77,223	45,965
June	71,088	32,984
July	57,358	40,563
Aug.	76,462	48,614
Sept.	89,018	51,955
Oct.	*95,703	49,552

*These preliminary figures include passenger car and truck sales in the United States, Canada and overseas by the Chevrolet, Oldsmobile, Oakland, Buick and Cadillac manufacturing divisions of General Motors.

Paris Decides to Hold 1926 Automobile Show

PARIS, Nov. 5.—(by mail)—Paris will hold an automobile show in 1926, declares Henri Cezanne, general manager of the annual French exhibition. "The efforts now being made to get an extension of the Industrial Arts Exhibition, which occupies the Grand Palais and the adjoining river bank, need not be taken seriously," says Cezanne.

It appears that the Government is not favourable to an extension of this exhibition, and that as a consequence the Grand Palais in the Champs Elysees will be available as usual.

No details have been decided on regarding the show. The probabilities are that it will open the first Thursday in October, thus preceding the London show by one week. This, however, is subject to approval by the English industry. whether there will be a single show for passenger cars, trucks, motor cycles and accessories will depend on the entries received.

N. A. D. A. Arranges Details For Chicago Convention

Meeting to Be Held at La Salle Hotel During National Automobile Show

ST. LOUIS, Nov. 21.—Officials of N. A. D. A. have announced that the Ninth Annual convention of the Association will be held at La Salle Hotel, Chicago, Monday, Tuesday and Wednesday, February 1, 2 and 3. And should the dealers demand it the meeting will be carried over to Thursday morning when, as was done last year, an open forum on dealer problems will be held by the six members of the N. A. D. A. staff.

The first day of convention, Monday, Feb. 1, will be given over entirely to a meeting of the board of directors of N. A. D. A., the first such session ever held in the history of that organization. It was decided to hold the all-day meeting because of the many matters which are to be placed before the directors for their decisions. What these subjects are has not been divulged nor will they be in advance because of the importance which attaches to them.

As Monday and Tuesday mornings are to be dealer days at the automobile show, there will be no meeting on Tuesday morning and the convention will really get under way Tuesday afternoon at 2 o'clock.

James H. Collins, research director of the Chilton Class Journal Co., will deliver the first address. His subject will be "Business Possibilities for 1926." It is expected that his discourse will consume about two hours. For the rest of the afternoon there will be other speakers, not as yet designated who will speak on subjects similar to that of Collins.

The whole of Wednesday's sessions will be devoted to business. There will be addresses on sales analysis, market analysis and kindred subjects by many of the noted men of the industry.

The whole of Wednesday's session will be devoted to business. There will be addresses on sales analysis, market analysis and kindred subjects by many of the noted men of the industry.

N. A. D. A. headquarters also has announced the program for the third annual convention of the Atlantic Coast District of N. A. D. A. to be held in the east ballroom of the Commodore Hotel, New York, January 11, in conjunction with the National Automobile show.

The program follows:

10 a. m. "Where Are Profits in 1926," James H. Collins, Director of Research Bureau, Chilton Class Journal Co.

11 a. m. "Fix Your Own Profit Goal for 1926," Harry M. Fancher, Secretary-Treasurer, Tom Botterill, Inc., Denver, Colo.

2 p. m. "Who Will Buy Cars in 1926," Edward Peyton, market analyst, N. A. D. A.

2:45 p. m. "Can the 1920 Salesman

Close a 1926 Buyer," H. D. Bullock, sales specialist, N. A. D. A.

3:45 p. m. "Dealer Dollar and Used Car Sense," A. R. Kroh, merchandising specialist, N. A. D. A.

The convention will be an all-day meeting.

Fisher Body Is Expending \$500,000 for Additions

PONTIAC, Mich., Nov. 21.—In order to meet the demand for an increasing number of bodies for the Oakland Motor Car Company and to provide adequate facilities for producing bodies for the new six cylinder car to be introduced early next year as a companion to the Oakland Six, the Fisher Body Corporation is expending approximately \$500,000 in additional building and equipment at its Pontiac plant.

The present Fisher Body Corporation's \$2,000,000 plant has been devoted exclusively, beginning two months ago, to building Oakland bodies. The building additions will add 60,000 more feet of floor space.

This enlargement for body building requirements follows closely the appropriation of \$750,000 for equipment in the Oakland factories to increase production on the Oakland Six and \$3,000,000 for tools and equipment to build the new six cylinder car which will be produced and distributed by the Oakland organization.

St. Louis Men Purchase Plant of Laurel Motors

ST. LOUIS, Nov. 21.—Arthur S. Sinclair, former promoter of automobile races at the Creve Coeur track, has announced that he is president of a company of St. Louisans which has purchased the Laurel Motors Corporation and its plant at Anderson, Indiana.

The Laurel Company manufactures a special cylinder head with 16 overhead valves and other parts with which Fords are turned into powerful and speedy automobiles. The cylinder head was invented by Robert M. Roff in 1917.

Sinclair stated that other St. Louisans who were officers of the Laurel Corporation were Charles Teutenberg, Norman H. Winter, B. J. Herman and William Schnarr. A St. Louis factory branch of the company has been opened at 4432 Olive street with Herman as manager. Sinclair stated that the Laurel factory at Anderson is to be enlarged.

NEW DURANT DEALER

SPOKANE, Wash., Nov. 21.—The new eastern Washington and Idaho sales zone of the Durant company has been put in charge of Harry Trueblood, formerly connected with the Durant organization at Portland. Mr. Trueblood will make his headquarters in Spokane with March-Strickle company, distributor for Star and Durant cars.

Price of Tires as Original Equipment Raised Again

Announcement Comes at Same Time As Further Advance in Crude Rubber

NEW YORK, Nov. 21.—Advance in prices of original tire equipment to automobile and truck manufacturers ranging from around \$10 on small cars to from \$25 to \$40 on medium class machines from \$110 to \$125 on trucks, announced as an effort to bring the price of original equipment into line with prevailing retail tire prices, was accompanied by a further advance of crude rubber to \$1.10.

London rubber stocks despite the recent increase of 10 per cent in production permitted under the Stevenson act declined 402 tons last week or 4,503 tons compared with 5,589 a year ago.

The Rubber Association of America, Inc., reports September production and shipment of high pressure inner tubes as declining from August with inventories increasing. The same is true of cord pneumatic casings and solid and cushion tires. Balloon inner tube inventories, production and shipments increased, balloon casing inventory and shipments increased while production declined.

Harvey Firestone, Jr., is quoted as saying in London that the present spread between production cost and selling price cannot last long, this opinion being opposed to that held by London stock exchange and rubber experts.

NEW JORDAN DEALERS

LOS ANGELES, Nov. 14.—The Lord Motor Car Company, Jordan distributors in Southern California, has conducted an extensive campaign to increase its dealers organization since the advent of the new Jordan models. Recent dealers appointments include the D. R. Tompkins Motor Car Company of Glendale, Advanced Motors, Huntington Park, Omer Brubaker, of San Bernardino, Wilshire Motors, of Los Angeles.

Star Plans Production of 300,000 Cars in 1926

ST. LOUIS, Nov. 21.—Colin Campbell, vice president of Durant Motors, Inc., and operating and merchandising head of the Star car factories said here last week that the Star Company expected to build and market 75,000 new Star six-cylinder cars in 1926 and about 225,000 four-cylinder cars, a total production of 300,000 automobiles. Campbell was in St. Louis in the course of a tour of inspection of the district of E. D. Knowles, Star and Durant middle west regional manager with headquarters at Kansas City.

Campbell said that average production during the ten first months of this year indicated a total output of 130,000 Star fours in 1925.

Tentative Tax Reduction Is Taken as Encouraging Sign

Industry Believes Excise May Be Removed Entirely When Bill Reaches Congress

NEW YORK, Nov. 21.—Reduction of the excise tax on passenger automobiles from 5 to 3 per cent, as tentatively planned by the House Ways and Means Committee, is regarded by the industry as an encouraging sign that before both houses of Congress finish deliberations on the bill the complete removal of these taxes will be granted.

Nothing short of complete removal will satisfy the industry's conviction that, since the automobile is no longer a luxury but a necessity, it should not be subjected to such taxes.

The decision of the committee to recommend complete removal of excise taxes on trucks, parts, accessories and tires is hailed with satisfaction by the manufacturers of these necessities. The opinion is expressed generally that if the committee, as an initial suggestion, is disposed to go as far as this complete removal and a reduction of 2 per cent on passenger cars, it is not improbable that a further reduction will be made, especially since it is understood that the Senate finance committee is inclined to grant additional hearings on the subject when the bill reaches the Upper House.

Automobile taxes in 1925 amounted to \$124,686,745. Of this about \$94,000,000 represented the taxes on passenger cars and trucks. Reduction of the tax on passenger cars from 5 to 3 per cent would amount to about \$39,000,000. Complete removal of this tax thus would result in a saving to purchasers of new passenger cars amounting to an average of \$29.

If the 5 per cent tax is reduced only to 3 per cent the average saving would be \$17.40. The tax on trucks is estimated to yield about \$31,000,000, which in turn, if completely removed, would revert to purchasers at least so far as members of the N. A. C. C. are concerned.

Whether the tax be only repealed in part, or in toto, there will arise to the industry—and chiefly to the 40,000 dealers—a problem the solution to which is now being attempted by R. A. Brannigan, attorney for the National Automobile Chamber of Commerce, who has been in Washington the past ten days.

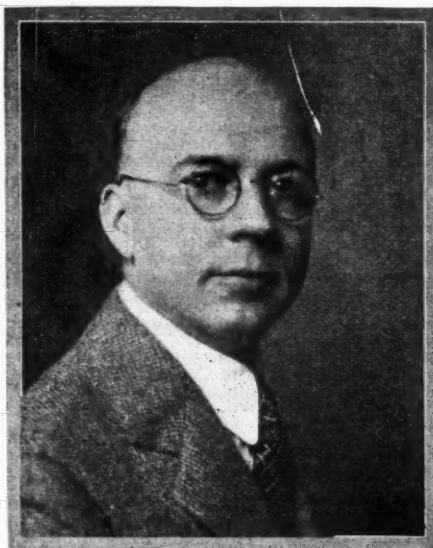
The problem is this:

Who's to pay the tax on passenger cars, trucks, tires and accessories which the 40,000 dealers will have on stock the day the law becomes effective?

Admittedly the purchaser will not pay it. So far as he is concerned the tax is repealed and if he can't purchase a car for future delivery after the tax is repealed he will wait until that date and get it tax free.

The answer to the question, according to Mr. Brannigan, can only be met by a retroactive clause in the measure which will permit a rebate to dealers of the stock on hand the day the new tax law

New Reo Sales Manager



C. A. Triphagen, who has succeeded R. C. Rueschaw as sales manager of Reo Motor Car Co.

becomes effective. Efforts to have this retroactive clause written into the bill are now being urged on the committee by representatives of the automobile industry now here working on the problem.

HUPP EIGHT SALES GAIN

DETROIT, Nov. 21.—Sale of Hupp Eight for the first eleven months of this year will be approximately 13,500, according to O. C. Hutchinson, general sales manager of the Hupp Motor Car Corp. Since the reduction in price, the sales have continued at a higher rate than they did shortly after the car was introduced. Hupp officials claim that the number which will be sold up to the end of the month will make the Hupp Eight the largest selling eight-cylinder car in the world. The sales of Hupp Six have been showing a continued and steady gain since their introduction.

India Reports Net Profit of \$27.70 on Common

AKRON, Nov. 21.—The sales of India Tire & Rubber Company, for the first six months of 1925 were \$2,220,221, or 89 per cent greater than for the corresponding time past year, according to J. M. Alderfer, president, in a letter to India stockholders.

"Despite the fact that our plant ran to its fullest capacity from January to September, we have been constantly behind on orders for the last seven months," Mr. Alderfer stated. "Our daily production has increased far beyond anything that has ever before been necessary."

Net profit after taxes, for six months, ending June 30 was \$314,655, which, after preferred dividends, was equivalent to \$27.70 a share on the common stock.

Charlotte Used Car Market Disturbed by Repossessions

Stocks Are Low but Dealers Fear Effect on Volume of New Sales Involving Trades

CHARLOTTE, N. C., Nov. 21.—Serious disturbances of the used car market here and at other important points in this territory were attributed by dealers and distributors here to offerings of repossessed cars by finance companies. This situation developed in the middle of November, and, though expected in a measure, has become more serious than the dealers say they expected.

Some of the larger dealers of Charlotte reported that the market has been upset, while others indicated that conditions with them were not quite so gloomy.

The Charlotte Automotive Merchants' Association, car dealers' division, at its last meeting, engaged in a general discussion of this problem. The tacit decision of the membership was that nothing immediately can be done to remedy the situation.

Stocks of used cars in this city are low, and the dealers are not apprehensive of loss from that source, but the condition of the used car market may have some important bearing on the volume of sales of new cars through trades involving used cars, according to several dealers.

Eldridge-Buick to Occupy New Spokane Home Dec. 1

SPOKANE, Wash., Nov. 2.—On December 1 Eldridge-Buick company will occupy their \$150,000 three-story and basement home which is now under construction, A. S. Eldridge of Seattle, president, has announced here. The building is one of the few strictly Class A structures in the city and has several features not found in many auto homes in the Northwest.

A spiral ramp leads from the street to the roof where storage space is made available. The ramp is on a 7 per cent grade and 20 feet wide to the second floor where the service department will be. Light is provided by the absence of columns and steel sash; columns are more than 40 feet between spans.

An elevated driveway from the third floor, across an alley and a vacant lot to the Northern Pacific Railway tracks, will make unloading a car of machines a matter of two hours for two men while it now takes four men to unload and put into the warehouse a car of machines.

C. G. ELECTS OFFICERS

DETROIT, Nov. 21.—At the annual meeting of the stockholders of the C. G. Spring & Bumper Company of Delaware, the board of directors was reelected. At a subsequent directors' meeting the following officers were elected for the ensuing year: Chirtsian Girl, president; Charles Getler, vice-president; Fred A. Cornell, vice-president and secretary; M. D. Harrison, treasurer.



Along Automobile Row



BUFFALO, N. Y.—The Leffl Motor Sales Co., has completed alterations in its showroom and service station costing about \$10,000. This company deals in Hudson and Essex.

ST. LOUIS.—A branch to be devoted exclusively to Lincoln sales and service has been opened by the Owen-Baskey Motor Co., Ford and Lincoln dealers, at 3333 Washington Boulevard, adjoining the company's main quarters. Albert L. O'Neil is in charge. A used car department will be opened of which Lyman B. Yancey will have charge.

HOOD RIVER, Ore.—The Twin Peaks Motor Company has been incorporated by E. E. Elliott, P. S. Riffe and S. S. Paxton. This company will handle the Star and Durant.

WATERLOO, Ia.—The H & M Chevrolet Company, C. J. Halverson and W. F. Marshall, has purchased the new garage at Fifth Street and Rock Island Lines tracks, now under construction.

COLUMBUS, O.—The Bill Orman Company has been chartered with a capital of \$20,000 to take over the sales and service business of Henry & Tetlow, agent for the Hudson and Essex.

MEMPHIS.—The Price-Barwick Co., Ford dealer, entertained 50 employees with a banquet to celebrate the most successful month ever experienced by the firm.

SAN ANTONIO, Tex.—The Barry Motor Company has been appointed distributor and dealer for the Paige-Jewett lines in San Antonio and Southwest Texas. Mr. Barry was formerly with the Paige-Jewett firm in Colorado.

RUSSELLVILLE, Ark.—Vim Rye, proprietor of the Rye Motor Company and local dealer for Dodge Brothers cars has purchased the Bowers Motor Company and the Buick agency from Eddie Bowers. He will continue the Buick agency.

ATLANTA.—Dealers handling the Peerless line in the South Georgia and Florida territory, with the exception of dealers in the Tampa, Fla., district, have been advised by the Peerless Motor Car Co., of Cleveland, O., that the Lanford Motor Car Co., 928 Main Street, Jacksonville, Fla., has been appointed distributors of the Peerless line in the above territory.

NORTHAMPTON, Mass.—Frank S. Parsons, Reo dealer, has had plans prepared for a new show room adjacent to his large garage, part of which is occupied by the Hampshire County Used Car Exchange. Meanwhile he will use half of the last named building, having leased his former quarters to the New England Telephone & Telegraph Co. for its motor fleet.

CHICAGO.—The Chicago Flint Co., 2500 South Michigan Avenue, has changed its status and is now wholesale distributor for the Flint car in the Chicago district, instead of a branch of the Flint Motor Company. H. J. Rosenberg continues as head of the organization.

TAMPA, Fla.—One of the finest automobile buildings in the state of Florida, including sales rooms and service station, will be constructed here by the Peninsular Motors Corporation, handling the Studebaker line in Tampa, it has been announced by S. O. Metchik, vice-president and general manager of the company.

NORTHAMPTON, Mass.—Chase Motor Co., Ford and Lincoln dealer, has bought the sales and service building erected for Girard Motors Co., and recently used by the Shaw Motor Co.

NEW ORLEANS.—Charlie Landry, for eight years manager of the service and parts department of the Universal Motor Company, Ford dealer, has bought the entire service and parts outfit of the Universal company and opened a new service station with Graeme M. Ton, former stockman for the Universal.

DETROIT.—Thomas Brooks, Inc., Detroit distributor for Moon and Diana, has

opened the first of a number of sales and services in this district at 507 Main Street, Royal Oak, Mich.

GREENFIELD, Mass.—Herbert F. Allen has been appointed Chevrolet dealer here in place of the Manning Motor Co.

CHICAGO.—The Quinlan Motors Company, Moon and Diana distributors, announces the opening of a new retail branch at 2029 S. Michigan Avenue. F. E. Walsh, former Moon and Diana distributor of Des Moines, is in active charge as manager. Quinlan also announces the opening of a service station at 2645 S. Wabash Avenue for the convenience of Moon and Diana owners and dealers.

HOMER, Mich.—A. E. Adams and Warren Clark, owners of the Ford sales and Service Garage have sold their business to Earl Durbin and Victor Rademacher of Carson City, Mich., who operate a Ford garage in that town.

MILWAUKEE.—Rinden Garage of 389 Atwood Avenue, Madison, Wis., has been appointed Moon-Diana dealer.

VANCOUVER, Wash.—W. E. Knight, who has been for a number of years associated with the Portland branch of the Mack International Motor Truck Corporation, has been made manager of the new headquarters here.

CHICAGO.—The wholesale department of the central western district of the Oakland Motor Car Company, in charge of E. M. Lubeck, has moved its headquarters to the London Guaranty Building from 2426 South Michigan Avenue, which premises will now be occupied by Community Motors, Inc., retail Oakland representatives.

SEATTLE.—The Huebner Motor Company of West Seattle has taken the agency for the Chevrolet line. The concern is composed of Bob Huebner and James Preston.

ATLANTA.—The southern branch of the Durant Motor Co., in Atlanta, advises that a new direct distributing branch will shortly be opened at Jacksonville, Fla., to handle the company's dealer trade on the Star and Durant lines in the Florida territory. The company is now constructing a warehouse at Jacksonville, and has established temporary headquarters for that state at 918 W. Main Street, Jacksonville.

CHICAGO.—The Chicago branch of the Davis Motor Car Co. has been closed and its business in the future will be handled by the R & V Service Co., 2530 South Michigan Avenue, all other Davis dealers in this territory having, for the present, direct factory connection.

NEW YORK.—Garland Automobile Co. has purchased the sales branch heretofore conducted by the Rickenbacker Motor Co. on Broadway between Fifty-sixth and Fifty-seventh Streets, with sub-branches at 1296 Bedford Avenue, Brooklyn, and 2396 Grand Concourse, the Bronx.

DETROIT.—Nash sales for Mt. Pleasant have been taken over by Dr. Frank Hackett and William Carroll. The sales room will be located at the corner of Broadway and Franklin Streets.

OGDEN, Utah.—A new Utah Oldsmobile agency to be known as the Maus-Hedges Oldsmobile Co. has opened up here with headquarters at 2200 Washington Avenue.

OAKLAND, Cal.—Bell & Boyd, Willys-Overland dealer here, announces the opening of a new store exclusively for used cars. The store has all the appearance and decorations of a new-car show room, and 50 rebuilt used-cars are to be kept on display at all times. The cars will be sold on a basis of transportation and mileage.

WESTFIELD, Mass.—J. W. McLeod has taken the agency for the Hudson and Essex in this territory.

ST. LOUIS.—Earnest J. Krause, Inc., Rolls-Royce distributor and Moon dealer is in the process of liquidation. Earnest

J. Krause, Jr., president, recently filed a voluntary petition in bankruptcy listing assets of \$44,000 and liabilities of \$64,000.

CEDAR RAPIDS, Ia.—Walter Arnold, district representative for the Ford Motor Company, was host last week to 75 dealers and guests from Johnson, Cedar, Benton, Jones and Linn counties at Cedar Rapids.

MILWAUKEE.—De Somers Motor Co. of Milwaukee, Wis., Chrysler dealer, has changed its name to W. C. Goerke Motor Co. Alex De Somers is no longer with the company whose new officers are W. C. Goerke, president, P. W. Wendeborn, secretary-treasurer and Hugh Horn, vice-president.

KELSO, Wash.—The Fred Hess Motor Company which operates garages in Kelso, Longview and Ryderwood, will open a branch in Kalama, Wash., managed by Fred Horn. The Hess company has the Ford, Fordson and Lincoln distribution.

CHICAGO.—The Auburn Automobile Co., 3914 South Wabash Avenue, has become a direct factory branch of the Auburn company and in the future will be known as the Auburn Chicago Co., 2449-51 South Michigan Avenue. F. P. Popp is branch manager. H. L. Wood, who has relinquished his Moon dealership, will take over the dealer business from Edward & Crist.

NEW ORLEANS.—P. L. Adams of the Adams Motor Car Company, announces that his company has just inaugurated the flat rate system in its servicing of Cleveland cars.

CANTON.—The Nash-Ajax Motors Co., 615 12th Street, N. E., has been chartered with an authorized capital of 500 shares, no par value designated, to deal in automobiles and supplies.

DETROIT.—A. S. Healy, associated with the wholesale tire business in Detroit for many years has opened a new K. O. Tire Store at 12243 Twelfth Street. A radio department is being conducted jointly with the tire business.

OAKLAND, Cal.—E. A. Hamlin, general manager of Hamlin & Wichman, Hudson and Essex dealer here, has been elected president of the Oakland Motor Car Dealers' Association. Charles L. Hebrank, head of the Hebrank, Hunter & Peacock Co., Chandler, Cleveland and Hupmobile dealers, was re-elected treasurer, and Robert W. Martland, veteran manager of the organization, was unanimously re-elected to that post.

PITTSFIELD, Mass.—Berkshire Auto Co., 109 South Street, has taken over the franchise for the Cadillac for this county, formerly held by Berkshire Cadillac Co.

ST. LOUIS.—Weber Implement and Automobile Co., St. Louis Hupmobile distributor, has opened a used, car department at the southwest corner of Locust and Nineteenth Streets under the management of Emil Weber.

ROCHESTER, N. Y.—The Yonk-Foster Nash Company has been organized here as a sub-agency to the Mortimore Motor Car Company, Nash distributors in this territory. E. J. Yonk, wholesale manager of the Mortimore company, is president of the sub-agency but will also retain his position with the distributing company.

DECATUR, Ill.—E. G. Hedges, local Oakland dealer, is retiring and has been succeeded in the agency by Robert R. Peck.

MILWAUKEE.—Quality Chevrolet Co. has been formed at Rhinelander, Wis., to deal in automobiles. Capital stock consists of 100 shares at \$100 par or \$10,000.

NEW ORLEANS.—The Glenn-Buick Company has announced the appointment of John Milandin as service superintendent to succeed C. J. Lelleher, who resigned to enter the real estate business.

With the Associations

Iowa Indorses Roads

DES MOINES, Ia., Nov. 21.—More than 200 automotive merchants of Iowa, here for the seventh annual convention of the Iowa Automotive Merchants' Association, gave unqualified approval to the good roads plan as outlined by Governor John Hammill in his address before the convention. The governor outlined the road building plans for the next three years, which include the construction of eight principal roads extending east and west and five north and south.

Featuring the meeting of the first day were three group conferences, the tire dealers constituting one group, battery and electrical men making up another, and dealers interested mainly in garage, service and maintenance, the third. Tire dealers interested themselves in a discussion of time payment plans for selling tires. It was brought out that under Iowa laws, a tire dealer selling tires on the time payment plan has little or no protection. Tire dealers recommended that the association promote legislation which would protect the tire dealer who finds it necessary to use the time payment plan of selling new tires.

Approval of the new battery rental law was voiced by the battery and electrical men who also discussed business methods. Flat rates and "gyp" practices were items of interest to the garage group.

The organization of the association for the coming year will include four committees: Dealer Relationships, Customer Relationships, Legislative, and Vigilance. The committee on dealer relationships will endeavor to promote better understanding and feeling between dealers, the committee on customer relationships will adjust differences between customers and dealers, the legislative group will sponsor beneficial legislation, and the vigilance committee will investigate and expose fraudulent practices.

Beginning December 1 a concentrated drive for new members will be made by the association. The goal set is for a membership of 2,000 active dealers. The drive will be directed by district chairmen, who will help county chairmen organize and direct the efforts of assisting dealers.

At the election preceding the close of the convention the appointment of T. W. LeQuatte as secretary-manager was confirmed and all officers re-elected. They are: W. E. Wissler, Des Moines, president; C. A. Morris, Waterloo, vice-president; and F. M. Rankin, Ft. Dodge, treasurer. Directors were chosen as follows: District No. 4, C. D. O'Harrow, Waterloo; district No. 6, Ray Van Brunt, Sioux City; district No. 11, L. M. Millsap, Cedar Rapids; district No. 12, H. J. Lytle, Davenport.

New Mayor Heads Dealers

SYRACUSE, N. Y., Nov. 21.—Charles G. Hanna, mayor-elect of Syracuse, has also been elected president of the Syracuse Automobile Dealers' association. Mr. Hanna is the Ford-Lincoln dealer here, head of the Charles G. Hanna Co., Inc. As president of the organization of dealers Mr. Hanna hopes to find time from his duties as mayor to bring about solution of many problems with which dealers are confronted. The stolen car problem is among them.

Detroit Holding Contest

DETROIT, Nov. 21.—Members of the Detroit Automobile Dealers' Association are staging a master salesman contest under the direction of the association. The contest will run during the months of November and December, ending at midnight, December 31.

All 74 members of the association are taking part. Prizes will be awarded on a points basis, one point being awarded for selling the car and two points for delivery. The rating salesman of the different organizations will be awarded a gold watch. Reports will be made weekly to the association during the period of the contest showing the standing of the different salesmen. The prizes will be awarded at a dinner to be tendered the winner and members in January.

The contest is the first of its kind ever held by the association and if successful may become an annual event.

Rochester Picks Burch

ROCHESTER, N. Y., Nov. 21.—R. D. Burch, of the Burch-Buell Motor Corporation, was unanimously elected president of the Rochester Automobile Dealers' Association at the annual meeting held this week. Other officers elected were: vice-president, J. J. Williams, of J. J. Williams, Inc., secretary, Oscar W. Stanley, of Swope Stanley Motors, Inc., treasurer, G. W. Frisbie, of Thomas J. Northway, Inc., directors, G. Norton Mortimore, Mortimore Motor Car Company, E. M. Alling, Alling and Miles, Inc., and J. E. Hansen, Rochester-Packard Motors.

Sunday Closing a Success

CHARLOTTE, N. C., Nov. 21.—The Sunday closing program of the 55 gasoline filling stations within the limits of this city has proved entirely successful, according to reports submitted at a meeting of the Charlotte Automotive Service Association, which promoted this innovation here. An effort now is being made to influence the automobile storage houses to cease the sale of gasoline, tires and oil on Sunday, these houses having reported a tremendous increase in their Sunday gasoline sales.

Atlanta Boosts Christmas Sales

ATLANTA, Nov. 21.—Due to the unusual degree of success that crowned the efforts of the Atlanta Automobile Association in the co-operative Christmas advertising campaign held last year, the association will again sponsor a similar campaign during the approaching Christmas season, but on a more extensive scale than heretofore.

The present plan is to have an advertising copy expert prepare a series of sales-building ads that are published at regular intervals in the Atlanta daily newspapers for several weeks prior to Christmas, the costs of this advertising to be shared by the members of the association on a co-operative basis, as was done last season.

The campaign last year resulted in a volume of automotive business in Atlanta, particularly in accessory and equipment lines, that far surpassed any previous holiday record in the history of the business in this section. As this advertising is thought by members of the association to have been largely responsible for this success, the campaign this year will be larger and more extensive.

Milwaukee S. A. E. Meets

MILWAUKEE, Nov. 21.—Thomas Coleman, vice-president of the Madison-Kipp Corporation, was the principal speaker at the first fall meeting of the Milwaukee section of the Society of Automotive Engineers, held at the Blatz Hotel. Mr. Coleman had as his topic "Engine Lubrication" and since he has given years of study to this problem, he presented facts of great interest to club members. In addition Mr. Coleman, with A. Fisher of the Waukesha Motor organization is scheduled to present a joint paper on the same subject at the national meeting in Detroit in January.

Battle Creek Dealers Meet

BATTLE CREEK, Mich., Nov. 21.—The Battle Creek Automobile Dealers' Association held its first fall meeting at Post Tavern hotel this week. About 60 dealers and salesmen heard Thomas T. O'Brien of the Reo Motor Car Co. discuss dealers' problems.

Urge Parking Enforcement

MILWAUKEE, Nov. 21.—Strict enforcement of the parking regulations, especially as they apply to the downtown and night parking provisos, is demanded by the Milwaukee Garage Owners' Association, which claims that thousands of automobiles are now permitted to park in the downtown streets throughout the night without having their lights burning. Tourists are permitted to violate virtually all of the city's parking regulations, the garage men claim, and are not molested.

Cliff Durant Building New Car for Memorial Day Race

Harlan Fengler Is Working with Him In Design of Promised Sensation

LOS ANGELES, Nov. 21.—R. C. "Cliff" Durant has started construction in Los Angeles of the first of a fleet of fast racing cars which he plans to enter in the next Indianapolis race. Because of the rapid development of automobile racing and the favor with which it is being received all over the world, Durant feels that the time has arrived to inject more competition into the game.

Durant is building the new cars, which are declared to embrace sensational features, with a view to realizing his life's ambition—that of winning the great Indianapolis classic. It will be remembered that Durant came close to winning this race a few years ago and he now believes that with the reduction in size of the cars he can win the 500-mile grind next Memorial Day.

The services of Harlan Fengler, famed racing pilot, have been engaged by Durant together they have designed a race car which includes many improvements on cars built in the past.

Two of the cars are expected to be ready for speed trials on the Culver City track early in 1926. It is Fengler's plan to complete the entire fleet of cars in time for the Indianapolis race. The power plant designed for the cars is of 91 cubic inch displacement—the smallest motor ever attempted in automobile racing. According to Fengler, close to 8000 revolutions per minute will be possible in the new motor as compared to 6800 revolutions in the 122 cubic inch car.

Aside from the new mechanical features of the cars, the general appearance will offer something absolutely new and novel.

Little Rock Holds Second Annual Closed Car Show

LITTLE ROCK, Ark., Nov. 21.—Little Rock's second annual closed car show was held this week with large crowds in attendance. Roy E. Steuber was manager of the show committee consisting of W. L. Owen, Henry C. Thomas, Miss E. C. Currie, and A. L. Woolfolk. The Little Rock Automobile Dealers Association staged the show.

Cars were exhibited by the following:

Ray Robinson Motors, Jordan; Madison-Smith Cadillac, Cadillac; O. A. Cook Auto Sales Co., Studebaker; Little Rock Motor Car Co., Hudson and Essex; Little Rock Buick Co., Buick; Laser Motor Co., Moon, Pierce-Arrow and Diana; Green Chevrolet Co., Chevrolet; Franklin Motor Car Co., Oakland and Franklin; Wright-Mann Motor Car Co., Star; Davis Motor Co., Star; Cook Automobile Co., Willys-Knight and Overland; Jennings-Mott Motor Co., Chrysler; S. R. Thomas Auto Co., Dodge Brothers; Whitney

Coming Motor Events

Automobile Shows

New York.....Jan. 9-15
National Automobile Show in Grand Central Palace.

Newark, N. J.....Jan. 16-23
Nineteenth annual Automobile Show under auspices of New Jersey Automobile Exhibition Co., Chamber of Commerce Building.

Buffalo, N. Y.....Jan. 16-23
Buffalo automobile show by Buffalo Automobile Dealers' Association in 174th Regimental Armory, Carlton C. Proctor, manager, headquarters, Hotel Statler.

Cleveland, O.....Jan. 23-30
1926 Automobile Show under auspices of Cleveland Automobile Manufacturers' and Dealers' Association, Herbert Buckman manager, in Public Auditorium.

Montreal.....Jan. 23-30
1926 Motor Show under the auspices of Montreal Automobile Trade Association, Theo Dorian, manager.

Lowell, Mass.....Jan. 25-Feb. 1
Twelfth automobile show in Memorial Auditorium by Automobile Merchants' Association of Lowell, Inc., George R. Garmon, manager, 119 E. Merrimack Street.

Chicago.....Jan. 30-Feb. 6
Twenty-sixth Annual National Automobile Show and Eleventh Annual Automobile Salon.

Washington.....Jan. 30-Feb. 6
Automobile show under auspices of Washington Automotive Trade Association in Washington Auditorium Building, Rudolph Jose, manager.

San Francisco.....Jan. 30-Feb. 6
Tenth annual Pacific Automobile Show under direction of Motor Car Dealers' Association of San Francisco, in Exposition Auditorium, G. A. Wahlgreen, 215-16 Humboldt Bank Bldg., manager.

COMING FEATURE ISSUES OF CHILTON CLASS JOURNAL PUBLICATIONS

January 1—National Shows Number—Automobile Trade Journal.

January 7—Motor Age—National Shows Number.

January 14—Motor World Wholesale—New York Show Report.

Denver.....Feb. 2-5
Annual automobile show under auspices of Denver Automobile Dealers' Association, in Municipal Auditorium, Myron L. Smith, chairman of committee.

Providence, R. I.....Feb. 6-13
Providence automobile show under auspices R. I. Automobile Dealers' Association, Chester I. Campbell, manager, 617 Industrial Trust Bldg.

Toledo, O.....Feb. 8-13
Annual show by Toledo Automotive Trades Association in Civic Center Garage, T. J. Cooper, manager, 925 Jefferson Avenue.

Louisville, Ky.....Feb. 15-20
Louisville Automobile Show, Armory, under the auspices of the Louisville Automobile Dealers Association, J. Garland Lea, manager.

Hartford, Conn.....Feb. 20-27
Automobile show by Hartford Automobile Dealers' Association in State Armory, Arthur Fifoot, manager, Hotel Bond.

Boston.....Mar. 6-13
Boston Automobile Show under auspices of Boston Automobile Dealers' Association, Inc., and Boston Commercial Motor Vehicle Association, Inc., in Mechanics' Building, Chester I. Campbell, manager, 329 Park Square Bldg.

Conventions

New York.....Jan. 11-13
Second World Motor Congress, under auspices of National Automobile Chamber of Commerce.

Chicago.....Feb. 9-10
American Drivervelf Association Annual Convention.

Galveston, Tex.....May 12-13
Tenth annual convention of Texas Automotive Dealers' Association in Galvez Hotel.

Harb, Ford; Freeman and Freeman, Ford; Shoemaker Bale Auto Co., Ford and Lincoln; Owen-Hill Motor Co., Hupmobile and Packard; Arkansas Nash Motor Co., Nash and Ajax.

American Cars Used as Anti-Soviet Arguments

PARIS, Nov. 2.—(by mail)—American automobiles are made use of as an argument against bolshevism in a poster published in France by the Cercle d'Etudes Economiques et Sociales of Lille.

The poster shows on one side 25,000 automobiles in Soviet Russia, a 12 to 14 hour working day, and the workmen going to the factory on foot. In contrast to this it is shown that in capitalistic America there are 17,726,000 automobiles, the working day does not exceed 8 hours,

and one workman out of every ten goes to the factory by automobile.

The poster points out that Henry Ford, who employs 50,000 men, began life as a mechanic, that the chief of the River Rouge plant was originally a pattern maker, and that the chief inspector of Ford's factories began life as a floor sweeper. This poster is being extensively placarded in the manufacturing centers of Northern France and in the industrial suburbs of Paris where Soviet influences are at work.

INDIA DEALERS MEET

AKRON, Nov. 21.—Seventy dealers attended the annual conference of Pacific Coast distributors of India tires, at the Whitcomb Hotel, San Francisco, October 19 and 20. J. M. Alderfer, president of India Tire & Rubber Company, presided at the meeting.

Accessory Exhibitors at National Shows

N. Y. Chgo.	N. Y. Chgo.	N. Y. Chgo.
A. C. Spark Plug Co., Flint, Mich.	Frick Bros., Inc., Brooklyn, N. Y.	William E. Pratt Mfg. Co., Chicago
AA Alert Alarm Co., Chicago	Fulton Co., Milwaukee	Protectolite Co., Inc., N. Y. City
Aluminum Co. of America, Pittsburgh	G-H Mfg. Co., Baltimore	Pyrene Mfg. Co., Newark, N. J.
American Auto Lamp Co., Inc., N. Y. City	Gabriel Snubber Mfg. Co., Cleveland, O.	Quincy Compressor Co., Quincy, Ill.
American Chain Co., Bridgeport, Conn.	Genco Mfg. Co., Milwaukee	Radiator Spec. Co., Charlotte, N. C.
Arco Mfg. Co., Providence, R. I.	Gemmer Mfg. Co., Detroit	Ramspring Bumper Co., Chicago
Arkas Sales Co., N. Y. City	General Electric Co., Schenectady, N. Y.	Rectifier Mfg. Co., Chicago
Arrow Head Steel Products Co., Minneapolis	Gits Bros. Mfg. Co., Chicago	Rex Mfg. Co., Connerville, Ind.
Art Metal Works, Inc., Newark, N. J.	Gordon Chemical Co., Foxboro, Mass.	Ross Gear & Tool Co., Lafayette, Ind.
Atlantic Yellowstone Pacific Hiway, Sioux Falls, S. D.	Guyde Publishing Co., Hartford, Conn.	Rubber-on-metal Welding Corp., N. Y. City
Auto Bed Camp Mfg. Co., N. Y. City	L. P. Halladay Co., Decatur, Ill.	Safety Vulcanizer Co., Chicago
Auto Tip-It Rack Co., Birmingham	Hampton-Wade Co., Brockton, Mass.	A. Schrader's Son, Inc., Brooklyn, N. Y.
Automobile Digest, Cincinnati, O.	Hamden Auto Top & Metal Co., Springfield, Mass.	Richard M. Sheridan & Co., Chicago
Automobile Equipment Mfg. Co., Chicago	Edw. V. Hartford, Inc., Jersey City, N. J.	Sherwin-Williams Co., Cleveland, O.
Automotive Daily News, N. Y. City	Hartford Battery Mfg. Co., Milldale, Conn.	H. B. Shontz Co., Inc., N. Y. City
Bendix Brake Co., South Bend, Ind.	Robert H. Hassler, Inc., Indianapolis	Sieg Co., Davenport, Ia.
Benzer Corp., Brooklyn, N. Y.	Heintz Mfg. Co., Philadelphia	Simplex Ignition Corp., N. Y. City
Biflex Corp., Brooklyn, N. Y.	Hercules Motors Co., Canton, O.	Skinner Automotive Device Co., Inc., Detroit
Bljar Lubricating Corp., N. Y. City	Hinkley Motors, Inc., Detroit	Smith Wheel, Inc., Syracuse, N. Y.
Blitrite Motor Equipment Co., Inc., N. Y. City	Ernest Holmes Co., Chattanooga	Snap-on Wrench Co., Chicago
Borg & Beck Co., Chicago	Houde Engineering Corp., Buffalo, N. Y.	Society Solex, N. Y. City
Robert Bosch Magneto Co., Inc., N. Y. City	Illinois Iron & Bolt Co., Carpentersville, Ill.	South Bend Lathe Works, South Bend, Ind.
Braunsdorf Mueller Co., Elizabeth, N. J.	Imperial Brass Mfg. Co., Chicago	Standard Filters Co., Newark, N. J.
Brown Spring Oiler Co., Cleveland, O.	Irving Engineering Sales Co., Buffalo, N. Y.	Stevens Products Co., Inc., Lowell, Mass.
Edw. G. Budd Mfg. Co., Philadelphia	Jessen Wind Deflector Co., Inc., Brooklyn, N. Y.	Stewart-Warner Speedometer Corp., Chicago
Budd Wheel Co., Philadelphia	Kant-Rust Products Corp., Rahway, N. J.	Storm King Electric Corp., Glendale, N. Y.
Bunting Brass & Bronze Co., Toledo	Kehawke Mfg. Co., Minneapolis	Stover Signal Engineering Corp., Racine, Wis.
Byrne, Kingston & Co., Kokomo, Ind.	Kokomo Electric Co., Kokomo, Ind.	Stromberg Motor Devices Co., Chicago
C. G. Spring & Bumper Co., Detroit	Lake Sales Co., N. Y. City	Super-Smart Studios, Inc., Chicago
Carr Fastener Co., Cambridge, Mass.	Larkin Automotive Parts Co., Dayton, O.	Swa-bac Mfg. Co., Chicago
Geo. R. Carter Co., Connerville, Ind.	Light Mfg. & Foundry Co., Pottstown, Pa.	C. A. Taylor Trunk Works, Chicago
Champion Pneumatic Mch. Co., Chicago	Link-Belt Co., Chicago	Thompson Research, Inc., Cleveland, O.
Chilton Class Journal Co., Philadelphia	Lorraine Corp., Chicago	Titledex Metal Hose Co., Newark, N. J.
Cleveland Hardware Co., Cleveland, O.	Lovejoy Mfg. Co., Boston	Tonneau Shield Co., Inc., N. Y. City
Cleveland Worm Gear Co., Cleveland, O.	Lowe Motor Supplies Co., N. Y. City	Trans-Continental Freight Co., N. Y. City
Conn. Automotive Specialties Co., Bridgeport, Conn.	J. C. McAdams Co., L. I. City, N. Y.	Trico Products Corp., Buffalo, N. Y.
Consolidated Equipment Corp., N. Y. City	Morris R. Machol, N. Y. City	Triple Action Spring Co. of N. Y., Inc., N. Y. City
Continental Co., Springfield, O.	Majestic Sales Agency, Chicago	U-Kan-Plate Co., Philadelphia
Continental Motors Corp., Detroit	Mal-o Products Corp., Brooklyn, N. Y.	United Mfg. & Distributing Co., Chicago
Cox Corp., Wilkes Barre, Pa.	J. F. Mansfield, N. Y. City	U. S. E. Corp., L. I. City, N. Y.
Caveroiler Co. of America, Philadelphia	Robert Marcus Co., Inc., N. Y. City	U. S. Auto Lamp Mfg. Co., Inc., N. Y. City
Cuno Engineering Corp., Meriden, Conn.	Marko Storage Battery Co., Brooklyn, N. Y.	United States Chain & Forging Co., Pittsburgh
Dayton Steel Foundry Co., Dayton, O.	Mercury Body Corp., Louisville	Unity Mfg. Co., Chicago
R. V. Dorbeck, Asbury Park, N. J.	Metal Stamping Co., L. I. City, N. Y.	Vacuum Oil Co., N. Y. City
Duckworth Chain & Mfg. Co., Springfield, Mass.	Monarch Bumper Mfg. Co., Detroit	Veeder Mfg. Co., Hartford, Conn.
Dunhameter Corp., Chicago	Moto-Meter Co., Inc., L. I. City, N. Y.	Volco Products Corp., Chicago
Dunning Compressor Co., Philadelphia	Motor, N. Y. City	Walden Co., Chicago
Eagle-Ottawa Leather Co., Grand Haven, Mich.	Motor Car Supplies Co., Inc., N. Y. City	Watervliet Tool Co., Inc., Albany, N. Y.
Eberhard Mfg. Co., Cleveland, O.	Motor Improvements, Inc., Newark, N. J.	John Warren Watson Co., Philadelphia
Eclipse Machine Co., Elmira, N. Y.	Nacto Cleaner Corp., N. Y. City	Waukesha Motor Co., Waukesha, Wis.
Egyptian Lacquer Mfg. Co., N. Y. City	Naperville Machine Co., Inc., Naperville, Ill.	Weldo Rubber Co., Inc., Brooklyn, N. Y.
Erlichman Harris & Klein, Philadelphia	New England Fabrics Mfg. Co., New Haven, Conn.	Wellston Mfg. Co., Wellston, O.
J. H. Faw Co., N. Y. City	New Era Spring & Spec. Co., Grand Rapids, Mich.	Westinghouse Electric & Mfg. Co., E. Pittsburgh
Federal-Mogul Corp., Detroit	Noisom Auto Compass Co., South Bend, Ind.	Whitney Mfg. Co., Hartford, Conn.
Federal Pressed Steel Co., Milwaukee	Overhead Door Corp., Hartford City, Ind.	K. R. Wilson, Buffalo, N. Y.
Kink-Dumont, White, Inc., N. Y. City	Panyard Machine & Mfg. Co., Detroit	Wire Wheel Corp. of America, Buffalo, N. Y.
Fitzgerald Mfg. Co., Torrington, Conn.	Pedersen & Flanagan, Inc., N. Y. City	Wolverine Bumper & Specialty Co., Grand Rapids
Ernst Flentje, Cambridge, Mass.	Pennsylvania Piston Ring Co., Cleveland, O.	Wonderlamp Co., N. Y. City
Irving Florman Co., N. Y. City	Perfection Heater Mfg. Co., Cleveland, O.	Woodworkers' Hardware Mfg. Co., Chicago
Folberth Auto Spec. Co., Cleveland, O.	Pines Winterfront Co., Chicago	Wyman-Gordon Co., Worcester, Mass.
		Yellow Jack-It Mfg. Co., Chicago

Florida Dealers Are Doing Phenomenal Fall Business

SANFORD, Fla., Nov. 21.—That automobile dealers in all parts of Florida are enjoying this fall an almost phenomenal volume of business in the sale of new cars is shown by the fact that more than 350 carloads of new cars have reached Sanford the past month, this city having been made the railroad destination for automotive equipment from the northern and eastern factories.

Serviced here, the cars are then dispatched under their own power to dealers and distributors throughout the state. The total value of cars reaching Sanford the past month has exceeded \$650,000. Thousands of new cars are also being unloaded at Jacksonville and driven to points throughout the state, distributors at the important cities throughout Florida having selected these two cities as destination points due to the freight embargo which exists throughout the state, and would otherwise interfere seriously with receipt of new cars by dealers.

At present more than 100 carloads of automobiles are en route to Sanford, and it is estimated that the total will average about 100 carloads weekly during November, making the two months of Oc-

tober and November the largest by far in the state's history in the sale of new automobiles by Florida dealers and distributors.

Schebler Announces Price Reductions on Model S

INDIANAPOLIS, Nov. 21.—The Wheeler Schebler Carburetor Company of this city yesterday announced a heavy price reduction on nine package out-fits of the Model S Schebler carburetor, including out-fits for Models 7U and 7Z Continental motors; Lycoming, model C; Falls motor, model 6 cylinder; and out-fits for the Oakland 6 of 1916 to 22; and the six of the same make for the years 1917 to 1920; the Olds 4, 1921-1924, the Olds 6, 1917 to 1920, and the Rollin 4, 1924-1926.

The reductions follow:

	Size	Old list	New list
Motor Car	in.		
Cont. 7U & 7Z	1	\$28.50	\$20.00
Lycoming-C	1	28.50	20.00
Oakland 6 '16-'22	1	26.50	21.50
Oakland 6, 1923	1 1/4	32.00	24.50
Olds 6, '17-'20	1	28.50	21.50
Olds 4, '21-'24	1	28.50	21.50
Falls, 6 Cyl.	1	30.75	24.50
Rollin 4, 1924-'26	1	28.50	21.50

Milwaukee Sees New Parts Business Record This Fall

MILWAUKEE, Nov. 21.—Activity in the parts industry in this city is establishing a new high record for the fall season according to information gleaned from a survey of the situation locally. Manufacturers unite in reporting a marked improvement during September and October with employment greater than it has ever been at this period of the year.

Similar conditions are expected to obtain throughout the month of November and December and well into 1926. Prospects for next year are most encouraging.

It is expected however that a seasonal decline in retail sales of cars will bring a corresponding reduction in production among the car builders, and which will be reflected back to the car parts manufacturers. Accordingly September and October have probably established peak records in production and employment among the parts manufacturers for the current year.

Even with the seasonal decline, indications point to a better condition during November and December than in the corresponding months of last year.

Prices and Weights of Current Passenger Car Models

SHIP.
WT. PASS. BODY STYLE. PRICE

AJAX
108 in. W. B.
2210 5-p Touring \$865
2410 5-p Sedan 995

APPERSON "6"
3100 5-p Phaeton \$1,575
3130 5-p Sp. Phaeton 1,650
3145 4-p Coupe 2,050
3570 5-p Sp. Sedan 2,100
3520 5-p Brougham 2,050

"ST8"
3520 5-p Sp. Phaeton 1,995
3750 4-p Coupe 2,450
3770 5-p Brougham 2,450
3790 5-p Sedan 2,595

AUBURN
"6-66"
2850 4-p Sport-Roadster 1,495
2860 6-p Touring 1,395
3020 5-p Brougham 1,595
3070 5-p Sedan 1,795
3070 Wanderer 1,845

"8-88"
3180 3-p Sport Roadster 1,975
3200 6-p Touring 1,995
3380 5-p Brougham 2,250
3450 5-p Sedan 2,350
3450 Wanderer 2,400
3750 7-p Sedan 2,550

BUICK
"Standard"
2845 2-p Roadster \$1,125
2955 5-p Touring 1,150
3020 2-p Coupe 1,195
3150 4-p Coupe 1,275
3230 5-p 4 d. Sedan 1,295
3110 5-p 2 d. Sedan 1,195

"Master"
(120 in. W. B.)
3350 2-p Roadster 1,250
3515 5-p Touring 1,295
3670 5-p Sedan 1,495
3765 5-p 2 d. Sedan 1,395

(128 in. W. B.)
3570 3-p Sp. Roadster 1,495
3635 5-p Sp. Touring 1,525
3855 4-p Country Club 1,765
3805 4-p Coupe 1,795
4025 5-p Brougham Sedan 1,925
3940 7-p Sedan 1,995

CADILLAC
"314" Standard Line
(132 in. W. B.)
4040 2-p Coupe \$3,045
4155 5-p Sedan 3,195
4240 7-p Sedan 3,295
4075 5-p Brougham 2,995
4360 7-p Imperial 3,435
4115 4-p Victoria 3,095

Custom Built
(132 in.)
3920 Roadster 3,250

(138 in. W. B.)
4300 7-p Touring \$2,250
3960 Phaeton 3,250
4190 5-p Coupe 4,000
4190 5-p Sedan 4,150
4250 7-p Suburban 4,235
4355 7-p Imperial 4,485

CASE
J. I. C.
3260 3-p Roadster \$1,840
3290 5-p Touring 1,885
3470 5-p Sp. Touring 2,160
3570 4-p Sub. Coupe 2,480
3640 5-p Sedan 2,590
3650 5-p Brougham 2,590

"Y"
3950 7-p Touring 2,225
4820 7-p Sedan 2,975

CHANDLER "35"
3090 2-p Roadster \$1,695
3085 5-p Sport Touring 1,495
3223 7-p Touring 1,595
3309 5-p Brougham 1,695
3525 5-p Met. Sedan 1,795
3498 5-p 20th Cent'y Sed. 1,490
3594 7-p Sedan 1,895

CHEVROLET
"Superior" (Series K)
1780 2-p Roadster \$525
1875 5-p Touring 525
2030 2-p Utility Coupe 675
2130 5-p Coach 695
2215 5-p Sedan 775

CHRYSLER "Four"
(109 in. W. B.)
2300 5-p Touring \$895
2405 2-p Club Coupe 995

SHIP.
WT. PASS. BODY STYLE. PRICE

2510 5-p Coach 1,045
2570 5-p Std. Sedan 1,095

"Six" (112 1/2 in. W. B.)
2805 4-p Roadster \$1,625
2785 5-p Phaeton 1,895
2895 5-p Coach 1,445
2935 4-p Coupe 1,795
2995 5-p Brougham 1,865
3060 5-p Sedan 1,695
3085 5-p Imperial Sedan 1,995
3090 5-p Crown Sedan 2,095

(118 1/2 in. W. B.)
3225 5-p Town Car \$7,725

CLEVELAND "31"
2415 5-p Touring \$895
2565 5-p Touring DeLuxe 1,025
2520 3-p Coupe 975
2695 5-p Sedan 995

"43"
2775 5-p Touring 1,095
2950 5-p Sp. Touring 1,195
3000 5-p Coach 1,295
2890 3-p Coupe 1,175
3120 5-p Sedan 1,295
3190 5-p Sedan DeLuxe 1,595
3190 5-p Sport Sedan 1,625

CUNNINGHAM
"V-6"
4600 7-p Touring \$7,000
4500 4-p Sp. Touring 6,500
4700 4-p Coupe 8,000
5000 6-p Limousine 8,500

DAGMAR
"6-70"
3750 4-p Roadster \$3,500
3800 4-p Sp. Tourer 3,500
3700 4-p Phaeton 3,500
4200 4-p Petite Coupe 4,500
4200 4-p Petite Sedan 4,500
4500 4-p De Luxe Coupe 4,750
4700 5-p Sedan 4,700
4800 7-p Sedan 4,750

"6-60"
3100 4-p Roadster 1,985
3200 4-p Sp. Touring 1,985
3150 5-p Touring 1,785
3500 5-p Sedan 2,445

DAVIS
"90"
2650 4-p M. o' War Road. \$1,495
2915 4-p Legionaire Tour. 1,495
2750 5-p Phaeton 1,895
..... 5-p Sedan 1,595
3070 5-p Imperial Sedan 1,795
3065 5-p Berline Sedan 1,795

"91"
2835 4-p Roadster 1,795
3020 5-p Phaeton 1,695
..... 5-p Sedan 1,895
3245 5-p Imperial Sedan 2,095
3215 5-p Berline Sedan 2,095

DIANA "St. 8"
2970 5-p Roadster \$1,895
3100 5-p Phaeton 1,895
3245 5-p Std. Sedan 2d. 1,995
3245 5-p DeLuxe Sedan 2,195
3130 5-p Cabriolet 2,095
3140 5-p Sedan de Luxe 2,095
..... 7-p Sedan (135 in. W. B.)

DODGE BROTHERS
2473 2-p Roadster \$855
2593 2-p Special Roadster 955
2567 5-p Touring 875
2695 5-p Spec. Touring 975
2708 2-p Coupe "B" 960
2823 2-p Spec. Coupe "B" 1,060
2995 5-p "B" Sedan 1,045
3077 5-p Spec. "B" Sedan 1,145
3020 5-p Sedan A 1,195
3107 5-p Spec. "A" Sedan 1,280
2723 5-p Coach 1,035
2823 5-p Spec. Coach 1,135

DUESENBERG
Straight "8"
3920 2-p Roadster ↑
3970 4-p Roadster ↑
3700 4-p Phaeton \$6,650
3920 4-p Phaeton ↑
3980 4-p Sp. Phaeton ↑
..... 4-p Sedan ↑
4500 7-p Sedan ↑

↑Manufacturers do not quote list prices.
DU PONT
"D"
3300 2-p Roadster \$2,600
3550 5-p Touring 2,600
3800 7-p Touring 2,750
3550 5-p Touring Sedan 3,400

SHIP.
WT. PASS. BODY STYLE. PRICE

DURANT
A-22
2225 2-p Sp. Roadster \$900
..... 5-p Touring 810
..... 5-p Spec. Touring 980
2895 4-p Coupe 1,090
..... 4-p Spec. Coupe 1,160
2505 5-p Sedan 1,160
..... 5-p Spec. Sedan 1,280

ELCAR
"4-55"
2560 5-p Touring \$1,095
2900 5-p Coach 1,195
2779 5-p Sedan 1,395

"6-65"
..... 5-p Touring 1,295
2779 5-p Coach 1,395
2900 5-p Sedan 1,595

"8-80"
..... 4-p Roadster 2,315
3700 5-p Sp. Touring 2,165
..... 7-p Touring 2,265
3000 3-p Coupe Roadster 2,315
..... 5-p Sedan 2,265
4050 7-p Sedan 2,765
4000 5-p Brougham 2,865

ESSEX
2185 5-p Touring \$765
2395 5-p Coach 795

FLINT
"55"
3325 4-p Sport Roadster \$1,950
3245 5-p Touring 1,595
3310 4-p Sp. Touring 2,050
3245 4-p Coupe 2,195
3595 5-p Sedan 2,285
3565 5-p Brougham 4d. 2,485

"40"
2715 5-p Touring 1,185
2940 5-p Sedan 4 d. 1,495
2965 5-p Brougham 1,575

FORD
Without Starter and Dem. Rims
1526 2-p Runabout \$260
1587 With Balloon Tires 305
1607 Touring 290
1640 With Balloon Tires 335

With Starter and Dem. Rims
1645 2-p Runabout \$345
1655 With Balloon Tires 370
1728 5-p Touring 375
1738 With Balloon Tires 400
1851 2-p Coupe 520
1860 With Balloon Tires 545
1961 5-p Sedan, Tudor 680
1972 With Balloon Tires 605
1994 5-p Sedan, Fordor 660
2004 With Balloon Tires 685

FRANKLIN
"11-A"
2800 3-p Sport Roadster \$2,750
2845 5-p Touring 2,635
2965 3-p Coupe 2,700
3175 5-p Sedan 3,090
3080 5-p Sport Sedan 3,225
3275 7-p Limousine 3,275
4135 5-p Cabriolet 4,400
..... 5-p Oxford Sedan 3,172

GARDNER
6A
3290 5-p Brougham \$1,595
3070 5-p Touring 1,895
3030 4-p Sport Roadster 1,595
3210 4-p Cabriolet 1,845
3280 5-p Sta. Sedan 1,595
3300 DeLuxe Sedan 1,895

8A
3620 5-p Brougham 1,995
3350 5-p Touring 1,995
3350 4-p Sport Roadster 1,995
3480 4-p Cabriolet 2,245
3620 5-p Sta. Sedan 1,995
3620 5-p Sport Sedan 2,295
3600 5-p DeLuxe Sedan 2,495

GRAY
"O"
1750 5-p Touring \$595
1880 3-p Coupe 825
2020 5-p Sedan 845
2130 5-p Royal Sedan 975

HERTZ
D-1
3360 5-p Sedan \$1,695

HUDSON
"Super Six"
3400 7-p Phaeton \$1,250
3385 5-p Coach 1,165
3425 4-p Brougham 4 d. 1,450
3675 7-p Sedan 1,650

HUPMOBILE "A"
2620 5-p Touring \$1,225
2800 5-p Sedan 1,285

"E"
3050 2-p Roadster 1,795
3270 4-p Roadster 1,895
3135 5-p Touring 1,795
3295 2-p Coupe 2,095
3295 4-p Coupe 2,095
3410 5-p Sedan 2,195

SHIP.
WT. PASS. BODY STYLE. PRICE

JEWETT
"23-25"
3060 4-p DeLuxe Road. \$1,500
3000 5-p DeLuxe Touring 1,320
2990 5-p Coach 2d. 1,245
3160 5-p DeL. Coach 2d. 1,400
3325 5-p DeLuxe Sedan 1,680

JORDAN
"J"
..... 4-p Playboy Road. \$1,695
..... 5-p Sedan 1,845

Series "A"
3340 5-p Touring 2,275
3625 5-p Brougham 2,575
3525 5-p Sedan 2,675
3470 7-p Sedan 2,925

KISSEL
"55"
3130 2-p Speedster \$1,795
..... 2-p Sp'dster DeLuxe 2,085
..... 4-p Speedster 1,895
..... 4-p Sp'dster DeLuxe 2,185
3530 2-p Enc. Speedster 2,085
..... 4-p Enc. Speedster 2,185
..... 4-p Enc. Spdstr. DeL. 2,685
..... 2-p Enc. Spdstr. DeL. 2,585

3190 4-p Tourster 1,795
..... 4-p Tourster DeL. 1,985
2980 5-p Phaeton 1,585
3170 5-p Phaeton DeL. 1,785
..... 7-p Touring 1,685
..... 7-p Touring De L. 1,885
3430 4-p Coupe 2,085
..... 4-p Coupe De Luxe 2,485
3540 5-p Brougham Sedan 1,995
..... 5-p Brough. Sed. DeL. 2,485
..... 5-p Brougham 2 d. 1,695
4070 7-p Sedan De Luxe 3,085
4010 7-p Berline Sed. DeL. 3,185
3530 5-p Victoria 2,185
..... 5-p Victoria DeLuxe 2,485

"75"
..... 2-p Speedster 2,195
..... 2-p Speedster De L. 2,485
..... 4-p Speedster 2,295
..... 4-p Speedster DeL. 2,585
..... 2-p Enc. Speedster 2,485
..... 2-p Enc. Sp'd'r DeL. 2,985
..... 4-p Tourster 2,195
..... 4-p Enc. Speedster 2,585
..... 4-p Enc. Sp'd'r DeL. 3,085
..... 4-p Tourster DeL. 2,385
..... 5-p Phaeton 1,985
..... 5-p Phaeton De Luxe 2,185
..... 7-p Touring 2,085
..... 7-p Touring De Luxe 2,285
..... 4-p Coupe 2,485
..... 4-p Coupe De Duxe 2,885
..... 5-p Brougham Sedan 2,395
..... 5-p Brough. Sed. DeL. 2,985
..... 5-p Brougham 2 d. 2,095
..... 7-p Sedan De Luxe 3,485
..... 7-p Berl. Sed. De L. 3,585
..... 7-p Victoria 2,585
..... 7-p Victoria De Luxe 2,885

LEXINGTON
"Concord"
2950 5-p Touring \$1,595
3000 5-p Touring (Enc.) 1,695
2950 5-p Spec. Touring 1,795
3200 5-p Sedan 2,185
3425 5-p Spec. Sedan 2,445

"Minute Man"
3120 2-p Roadster 2,145
3195 5-p Touring 2,095
3489 7-p Touring 2,195
3230 5-p Lark Touring 2,845
3368 5-p Cal. Touring 2,495
3395 7-p Cal. Touring 2,495
3875 7-p Royal Coach 2,495
3440 5-p Brougham 2,595
3542 5-p Sedan 2,895

LINCOLN
4460 2-p Roadster \$4,000
4580 7-p Touring 4,000
4565 4-p Phaeton 4,000
4740 Sport Touring 4,600
4750 4-p Coupe 4,800
4885 4-p Sedan 4,800
4960 5-p Sedan 4,800
4890 7-p Sedan 5,100
4945 7-p Limousine 5,300

LOCOMOBILE "48"
5280 4-p Sportif Tour \$7,460
5330 7-p Touring 7,460
5630 5-p Victoria Sedan 10,050
5464 7-p Brougham 10,040
5640 7-p Touring Lim. 9,500
5868 7-p Enc. Drive Lim. 10,050
5600 7-p Cabriolet 10,300

"Jr.-8"
3100 2-p Roadster 2,150
3000 5-p Touring 1,785
3400 5-p Sedan 2,235
3350 5-p Brougham 2,285

Prices and Weights of Current Passenger Car Models

PRICE

SHIP. WT. PASS. BODY STYLE. PRICE				
McFARLAN "6"				
"SV"				
3700	2-p	Roadster	\$2,650	
3700	2-p	Spec. Roadster	2,900	
3600	5-p	Touring	2,650	
3600	7-p	Touring	2,750	
3850	4-p	Coupe	3,180	
3850	5-p	Sedan	3,180	
3850	5-p	Spec. Sedan	3,180	
3850	7-p	Sedan	3,280	
3850	5-p	Sub. Sedan	3,380	
3850	7-p	Sub. Sedan	3,480	
3850	5-p	Brougham 4 d.	3,180	
"TV"				
4000	2-p	Roadster	5,400	
4600	4-p	Sp. Touring	5,600	
4900	4-p	Coupe	6,720	
5200	4-p	Tour. Sedan	6,720	
5200	7-p	Tour. Sedan	6,810	
5200	6-p	Sedan	6,720	
5200	7-p	Sedan	6,810	
5200	7-p	Spec. Sedan	6,810	
5200	7-p	Enc. Sedan	7,110	
5200	7-p	Sub. Sedan	7,110	
5200	7-p	Town Car	9,000	
Straight "8"				
2-p	Roadster	2,650		
4-p	Roadster	2,900		
5-p	Touring	2,650		
7-p	Touring	2,750		
5-p	Sedan	3,180		
5-p	Sub. Sedan	3,380		
7-p	Sedan	3,280		
7-p	Sub. Sedan	3,480		
4-p	Coupe	3,180		
5-p	Coach Brougham	3,180		
5-p	Town Car	4,600		
MARMON "74"				
3695	2-p	Roadster	\$3,295	
3604	5-p	Phaeton	3,295	
3704	7-p	Touring	3,295	
3799	5-p	Brougham Coupe	3,295	
3859	4-p	Victoria Coupe	3,295	
3859	2-p	Std. Coupe	3,295	
3859	5-p	Sedan	3,295	
3859	5-p	Sedan De Luxe	3,775	
3859	7-p	Sedan	3,370	
3859	7-p	Sedan De Luxe	3,850	
3859	5-p	Sedan Limousine	3,900	
3859	7-p	Sedan Limousine	3,975	
MOON Series "A"				
2490	5-p	Roadster	\$1,395	
2675	5-p	Cab. Roadster	1,595	
2610	5-p	Touring	1,195	
2750	5-p	Coach	1,895	
2750	5-p	DeLuxe Sedan 2 d	1,495	
2850	5-p	Std. Sedan 4 d.	1,645	
2850	5-p	DeLuxe Sedan 4d	1,695	
London				
3270	5-p	Sp. Touring	1,985	
3270	7-p	Touring	1,985	
3590	5-p	Petite Sedan	2,540	
NASH "Special"				
2870	2-p	Roadster	\$1,185	
2880	5-p	Touring	1,115	
3120	5-p	Sedan 2 d.	1,215	
3300	5-p	Sedan 4 d.	1,445	
"Advanced"				
(121 in. W. B.)				
3320	3-p	Roadster	1,375	
3400	5-p	Touring	1,340	
3550	5-p	Sedan 2 d.	1,425	
"Advanced"				
(127 in. W. B.)				
3480	7-p	Touring	1,490	
3640	4-p	Victoria	1,790	
3750	5-p	Coupe 4 d.	1,990	
3830	7-p	Sedan	2,090	
OAKLAND "6"				
2425	2-p	Roadster	\$975	
2500	5-p	Touring	1,025	
2640	5-p	Coach	1,095	
2615	3-p	Landau Coupe	1,125	
2765	5-p	Sedan	1,195	
2885	5-p	Landau Sedan	1,295	
OLDSMOBILE "30"				
2235	5-p	Touring	\$875	
2445	5-p	Sp. Touring	980	
2460	5-p	Coach	950	
2660	5-p	De Luxe Coach	1,040	
2525	5-p	Sedan	1,025	
2735	5-p	De Luxe Sedan	1,115	

SHIP. WT. PASS. BODY STYLE. PRICE

OVERLAND "91" 4				
(100 in. W. B.)				
1919	5-p	Touring	\$495	
2060	2-p	Coupe	625	
2205	5-p	Sedan De Luxe	695	
2202	5-p	Std. Sedan 2 d.	595	
"93" 6				
(112 1/4 in. W. B.)				
2443	5-p	Sta. Sedan	895	
2584	5-p	Sedan De Luxe	1,095	
PACKARD "6"				
(126 in. W. B.)				
3643	4-p	Roadster	\$2,785	
3653	5-p	Touring	2,585	
3695	4-p	Sp. Touring	2,750	
3753	4-p	Coupe	2,585	
3937	5-p	Sedan	2,585	
(133 in. W. B.)				
3793	7-p	Touring	2,785	
4043	7-p	Sedan	2,785	
4143	7-p	Club Sedan	2,725	
4143	7-p	Sedan Limousine	2,885	
"8"				
(136 in. W. B.)				
4060	4-p	Runabout	3,950	
4090	5-p	Touring	3,750	
4023	4-p	Sp. Touring	3,900	
4242	4-p	Coupe	4,650	
4528	5-p	Sedan	4,750	
4528	2-p	Coupe	5,775	
(143 in. W. B.)				
4199	7-p	Touring	3,950	
4043	5-p	Club Sedan	4,890	
4655	7-p	Sedan	5,000	
4710	7-p	Sedan Limousine	5,100	
PAIGE "21-24"				
3875	4-p	Phaeton	\$2,165	
3935	7-p	Phaeton	2,165	
4325	5-p	Sedan De Luxe	2,395	
4325	7-p	Sedan De Luxe	2,840	
PEERLESS "6-72"				
(126 in. W. B.)				
3175	5-p	Touring	\$1,895	
3425	5-p	Coupe	2,295	
3500	5-p	Sedan	2,395	
(133 in. W. B.)				
3275	2-p	Roadster	2,195	
3300	7-p	Touring	1,995	
3700	7-p	Sedan	2,595	
3825	7-p	Limousine	2,695	
"6-80"				
(116 in. W. B.)				
3310	5-p	Stdd. Sedan	\$1,595	
"8-67"				
3950	4-p	Phaeton	2,845	
3995	7-p	Phaeton	2,895	
4300	5-p	Town Brougham	3,495	
4310	5-p	Town Sedan	3,495	
4400	7-p	Sub. Sedan	3,595	
4525	7-p	Berline Lim.	3,795	
4100	4-p	Victoria Coupe	3,245	
4150	5-p	Sub. Coupe	3,295	
PIERCE-ARROW "33"				
(127 in. W. B.)				
4350	2-p	Runabout	\$5,250	
4500	4-p	Touring	5,250	
4590	7-p	Touring	5,250	
4730	3-p	Coupe	6,800	
4800	4-p	Sedan	6,900	
4960	7-p	Sedan	7,000	
4750	4-p	Coupe Sedan	6,900	
4730	6-p	Brougham	6,800	
4850	7-p	Limousine	7,000	
5060	7-p	Enclosed Lim.	7,000	
4780	7-p	French Lim.	7,000	
4730	6-p	Landaulet	7,000	
"80"				
3205	2-p	Roadster	2,895	
3260	4-p	Phaeton	3,095	
3385	7-p	Phaeton	2,895	
3430	5-p	Coach	3,150	
3365	4-p	Coupe Landau	3,820	
3335	4-p	Coupe	3,695	
3440	5-p	Sedan	3,895	
3560	7-p	Sedan	3,995	
3615	7-p	Enc. Drive Lim.	4,045	
REO "T-6"				
3350	2-p	Roadster	\$1,665	
3182	5-p	Sp. Touring	1,395	
3350	2-p	Coupe	1,495	
3400	5-p	Sedan 4 d.	1,565	
3400	5-p	Spec. Sedan	1,745	
REVERE "25"				
3900	2-p	Sp. Roadster	\$2,750	
3975	4-p	Speedster	2,750	
4050	5-p	Touring	2,750	
4300	5-p	Sedan	3,800	
"M"				
3700	2-p	Roadster	3,200	
3800	4-p	Sportster	3,200	
3970	5-p	Touring	3,200	
4400	5-p	Sedan	4,000	

SHIP. WT. PASS. BODY STYLE. PRICE

WT. PASS. BODY STYLE. PRICE				
RICKENBACKER				
"Six" (117 in. W. B.)				
-----	3-p	Roadster	\$1,595	
-----	5-p	Phaeton	1,495	
-----	3-p	Coupe Roadster	1,695	
-----	3-p	De Luxe	1,820	
-----	4-p	Coupe De Luxe	1,995	
-----	5-p	Spec. Sedan	1,795	
-----	5-p	De Luxe	1,920	
-----	7-p	Sedan De Luxe	1,995	
-----	5-p	Coach Brougham	1,595	
-----	5-p	De Luxe	1,720	
"Eight" (121½ in. W. B.)				
-----	3-p	Roadster	1,995	
-----	5-p	Phaeton	1,995	
-----	3-p	Coupe Roadster	2,095	
-----	3-p	De Luxe	2,220	
-----	4-p	Coupe De Luxe	2,320	
-----	5-p	Spec. Sedan	2,195	
-----	5-p	De Luxe	2,320	
-----	7-p	Sedan De Luxe	2,395	
-----	5-p	Coach Brougham	1,995	
-----	5-p	De Luxe	2,120	
ROAMER				
"6-50-55" (115 in. W. B.)				
-----	2-p	Roadster	\$1,385	
-----	5-p	Spec. Tourer	1,245	
-----	2-p	Bus. Coupe	1,295	
-----	5-p	Coupe	1,395	
-----	5-p	Sedan DeLuxe	1,595	
"6-54-E" (118-138 in. W. B.)				
-----	4-p	Roadster	2,385	
-----	4-p	Tourer	1,985	
-----	4-p	Sport	2,285	
-----	7-p	Tourer	2,285	
-----	3-p	Cabriolet	2,750	
"4-75-E" (128 in. W. B.)				
"Custom Built"				
-----	2-p	Speedster	3,485	
-----	3-p	Sport	3,285	
-----	4-p	Tourer	2,985	
"8-88" (138 in. W. B.)				
-----	4-p	Roadster	2,750	
-----	5-p	Sport	2,750	
-----	5-p	Tourer	2,395	
-----	7-p	Tourer	2,585	
-----	2-p	Speedster	2,985	
-----	3-p	Cabriolet	2,950	
-----	5-p	Spec. Sedan	3,285	
-----	7-p	Sedan (136-in. W. B.)	3,185	
-----	5-p	Brougham	2,785	
ROLLIN				
"G-2"				
2360	5-p	Touring	\$1,155	
2405	8-p	Coupe Roadster	1,325	
2595	5-p	Brougham	1,325	
2575	5-p	Sedan	1,455	
ROLLS-ROYCE				
-----	Chassis			††
††Manufacturers do not quote list prices.				
STANLEY "252"				
3400	5-p	Phaeton	\$2,500	
3800	5-p	Sedan	3,300	
STAR				
-----	2-p	Roadster	\$525	
-----	5-p	Touring	525	
-----	2-p	Coupester	595	
-----	2-p	Coupe	595	
-----	5-p	Coach	695	
-----	5-p	Sedan 4 d.	775	
Standard "6"				
-----	-----	Coupester	\$745	
-----	-----	Coupe	820	
-----	5-p	Coach	880	
STEARNS-KNIGHT				
"B" (4)				
-----	4-p	Coupe Roadster	\$1,795	
3775	5-p	Touring	1,595	
4250	5-p	Sedan	2,095	
3750	4-p	Coupe Brougham	1,895	
-----	5-p	Brougham	2,095	
"S" (6)				
-----	2-p	Roadster	2,495	
3775	5-p	Touring	2,395	
3850	7-p	Touring	2,495	
4025	2-p	Coupe	3,395	
4275	4-p	Sp. Coupe	3,150	
3950	5-p	Sedan	2,945	
4275	7-p	Sp. Brougham	3,395	
-----	4-p	Sp. Sedan	3,395	
"C" (6)				
3525	4-p	Touring	1,875	
3540	5-p	Touring	1,875	
3550	2-p	Sport Coupe	2,185	
3650	5-p	Coupe Brougham	2,285	
3700	5-p	Sedan	2,475	
3700	5-p	Brougham	2,475	
-----	5-p	Brough. Sedan	2,480	
STEVENS-DURYEA				
4200	2-p	Roadster	\$3,150	
4400	7-p	Touring	7,500	
4250	4-p	Sp. Touring	7,750	
4600	4-p	Coupe	9,000	
4600	4-p	Sedan	10,000	

Mechanical Specifications of Current Passenger Car Models

This list comprises cars distributed on a national basis

MAKE AND MODEL			ENGINE										ELECTRICAL SYSTEM		REAR AXLE			BRAKES		Rear Springs—Type and Length		Chassis Lubrication—Type and Make		ABBREVIATIONS—NAMES OF MFRS OF STOCK PARTS								
Wheel Base (Inches)	Tire Size	Decimals—Balloons	Model	Number of Cyls.	Bore and Stroke	Rated H.P.	Piston Displacement	Valve Arrangement	Camshaft Drive	Crankcase Interlock or Sep.	Piston Material	No. Main Bearings	Oiling System	Oil Cleaner?	Cooling System	Thermosafe?	Carburetor	Air Cleaner?	Ignition System	Generator and Starter Make	Clutch—Type and Make	Gear Set—Make	Universal—Type and Make	Type and Make	Gear Ratio	Foot—Type and Location	Hand—Type and Location	4-Optional Type	Steering Gear—Make	Chassis Lubrication—Type and Make	ABBREVIATIONS—NAMES OF MFRS OF STOCK PARTS	
108	30x4.75	108	Own.....	6-35	4	21.6	170	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Car.....	A-L.....	Remy.....	A-L.....	P. B&B.	Own.....	f-The.	1/2	Own.....	4.77	B-F.	E-T.	M	Ross.	Pr-Al.	A-K—Awtor-Kent
120	33x6.00	120	Own.....	6-35	4	24.4	204	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Auto-Lite	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P.....	Pu.....	N.....	Sch.....	Remy.....	A-L.....	P. B&B.	Own.....	m-Spi.	1/2	Own.....	5.10	L-R.	B-F.	M	Ross.	Pr-Al.	Al—Alumin.	
120	33x6.25	120	Lyc.....	6-35	4	31.3	270	1	He.....	Int.....	CI.....	2	P.....	P																		



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(This list comprises cars distributed on a national basis)

MAKE AND MODEL		Wheel Base (Inches)	Tire Size	Decimals-Balloons	Make and Model	Number of Cyls.	Bore and Stroke	Rated H.P.	Piston Displacement	Valve Arrangement	Camshaft Drive	Crankcase Interlocking or Sep.	Piston Material	No. Main Bearings	Oiling System	Oil Cleaner?	Cooling System	Thermostat?	Carburetor	Air Cleaner?	Ignition System	Generator and Starter Make	Electrical System	Clutch—Type and Make	Gear Set—Make	Universals—Type and Make	REAR AXLE	BRAKES	Steering Gear—Make	Rear Springs—Type and Length	Chassis Lubrication—Type and Make	ABBREVIATIONS—NAMES OF MFRS OF STOCK PARTS		
74	Marmon	136	32x6.20		Own	6-33x53	73.8	340	1	He.	Sep.	Al.	3	P.F.	Y	Pu.	N	Sch.	N	Delco	Delco	Own	D. Own.	Own	W-G.	m-Spi.	3/4	Own.	Var.	E-R	4.00	Wes.	A-K	Atwater Kent
SV	McFarlan	127	32x6.20		Wis.	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
St. 8	McFarlan	131	32x6.20		Lyc.	8-31x41 1/2	22.6	287	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
TV	McFarlan	140	34x7.20		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
6	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
London	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Series A	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Advanced	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Nash	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Special	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Oakland	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Oldsmobile	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Overland	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Overland	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Overland	Mercer	117-132	32x4 1/2		Own	6-33x55	27.3	268	1	Ch.	Int.	Ch.	3	P.F.	Pu.	N	Ray	N	Wes.	Delco	Wes.	W-G.	D. Long.	W-G.	m-Uni.	1/2	Tim.	4.00	E-F	E-T	Ross	Al	Al	Al
Packard	Mercer	128-133	33x6.75		Own	6-33x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.F.	Pu.	Y	Y	Y	Own.	Delco	Dyn.	Own	D. Own.	Own	m-Mec.	1/2	Own.	3.66	B-F	E-R	Own.	Cm-Bij	Conn-Connecticut	
8	Packard	136-143	33x6.75		Own	8-33x55	36.4	358	1	Ch.	Sep.	Ch.	9	P.F.	Pu.	Y	Y	Y	Own.	Delco	Dyn.	Own	D. Own.	Own	m-Mec.	1/2	Own.	4.00	B-F	E-R	Own.	Cm-Bij	Conn-Connecticut	
21-25	Peugeot	131	33x6.75		Own	6-33x45	33.8	331	1	Ch.	Sep.	Ch.	9	P.F.	Pu.	Y	Y	Y	Own.	Delco	A-K.	Own	D. Long.	W-G.	m-Mec.	1/2	Own.	4.90	E-F	E-T	Own.	Cm-Bij	Conn-Connecticut	
6-72	Peerless	126-133	33x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Joh.	N	Delco	Delco	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-80	Peerless	116	33x6.00		Own	6-31x55	25.3	220	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Joh.	N	Delco	Delco	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-80	Peerless	128	33x6.00		Own	6-31x55	25.3	220	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Joh.	N	Delco	Delco	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-80	Peerless	128	33x6.00		Own	6-31x55	25.3	220	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Joh.	N	Delco	Delco	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
33	Pierce Arrow	138	33x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.F.	N	Pu.	Y	Own.	N	Delco	Delco	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Pierce Arrow	120	32x6.00		Own	6-31x55	24.3	229	1	Ch.	Sep.	Ch.	4	P.S.	N	Pu.	N	Sch.	N	Delco	N-E.	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
16	Reo	120	32x6.00		Own	6-31x55	24.3	229	1	Ch.	Sep.	Ch.	4	P.S.	N	Pu.	N	Sch.	N	Delco	N-E.	Own	D. Own.	Own	m-Spi.	1/2	Own.	4.00	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
M	Reo	131	32x4 1/2		Mon.	4-43x66	30.6	361	H	Ch.	Sep.	Ch.	2	P.C.	Y	Pu.	N	Sch.	N	Delco	Wes.	Own	D. B-L.	B-L.	m-Mec.	1/2	Spe.	3.44	E-R	E-R	Own.	Pr-Al	Delo-Detroit	
25	Reo	131	32x6.00		Own	6-33x45	33.8	331	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	D. B-L.	B-L.	m-Mec.	1/2	Spe.	3.44	E-R	E-R	Own.	Pr-Al	Delo-Detroit	
D	Rickenbacker	117	31x5.25		Own	6-31x45	25.3	226	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	D. B-L.	B-L.	m-Mec.	1/2	Spe.	3.44	E-R	E-R	Own.	Pr-Al	Delo-Detroit	
B-8	Rickenbacker	121 1/2	33x6.00		Own	8-31x43 1/2	33.8	315	L	Ch.	Sep.	Ch.	9	P.C.	R	Pu.	N	Zen.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-54-E	Roamer	118-128	32x4 1/2		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Zen.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
4-75-E	Roamer	128	32x4 1/2		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Zen.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-50-55	Roamer	115	31x5.25		Own	6-31x45	28.4	240	H	Ch.	Sep.	Ch.	5	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-50-55	Roamer	115	31x5.25		Own	6-31x45	28.4	240	H	Ch.	Sep.	Ch.	5	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
8-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70	E-F	E-T	Own.	Pr-Al	Delo-Detroit	
6-88	Roamer	128	32x6.00		Own	6-31x55	29.4	280	1	Ch.	Sep.	Ch.	7	P.C.	N	Pu.	N	Sch.	N	Delco	Wes.	Own	P. Long.	W-G.	m-Mec.	1/2	Col.	4.70						

KEY TO SYMBOLS

- *—At extra cost
- +—Balloons at extra cost
- ½—Semi-floating
- ¾—Three-quarter floating
- A—Air
- Al—Aluminum
- B—Semi-steel
- B-1—Both internal and external
- F—Four wheels

G—Head and side
Gr—Grease cups
H—Horizontal (valves)
HH—Hydraulic (brakes)
He—Helical gear
I—In head
Int—Integral
I-r—Internal four wheels
I-R—Internal rear wheels
J—Three-quarter elliptic
K—Cone

L—L head
m—Metal
M—Mechanical
N—None
N—Platform (rear springs)
O—Optional (brakes)
O—Special type (rear springs)
ow—Oil cups with wick feed
p—Single plate
P—Pressure gun
Pr—Oil cups

PC—Pressure to all crankshaft and connecting rod bearings
PF—Full pressure to all bearings
PK—Pressure to crankshaft, connecting rods and camshaft bearings
PS—Splash with pressure
Pu—Pump
Q—Quarter elliptic
R—Rectifier
S—Semi-elliptic
sep—Separate

Sp—Splash (lubrication)
Sp—Spur gear (camshaft drive)
Spe—Special make
Sta—Standard
T—T head
Th—Thermo-syphon
V—Valveless
Var—Varies
Y—Sleeve valve
Y—Yes

Another Owner Endorses Hyatt Rear Axle Bearings

THE COLORADO FUEL AND IRON COMPANY
PUEBLO, COLORADO

July 31, 1925.

Hyatt Roller Bearing Co.,
Detroit, Michigan.

My 1925 Buick Standard Six touring car is a very fine coaster, having several times outcoasted other machines on a gently inclined stretch of road, four or five miles long, near Pueblo. I note from the specifications that the rear wheels are on Hyatt Roller Bearings, and no doubt much of the ability to outcoast others is due to the superior type of bearings in these wheels.

After so many of these pleasing experiences, I am much interested in knowing how these bearings are manufactured, what they are made of, etc., - in fact, what processes are necessary to make such a wonderful bearing. You doubtless have booklets describing their manufacture which you could mail me.

Anything of interest which you can send that will explain the necessary skill and workmanship and describe the materials which must have much to do with their superior performance in an automobile, will be greatly appreciated.

Yours very truly,

ry truly,
R. M. Cutcherson

HYATT ROLLER Bearings absorb road shock and driving strain—maintain proper alignment of shafts and gears—yet never require adjustment. Being quiet, rugged and long-lived, they seldom need attention. Because of these advantages they add prestige to the transportation they equip.

HYATT ROLLER BEARING CO.
NEW YORK DETROIT CHICAGO
SAN FRANCISCO
Worcester Philadelphia Charlotte
Pittsburgh Cleveland



HYATT

Quiet
Roller Bearings



Wal—Watford
Wes—Westinghouse
W-M—Willys-Morrow
Wis—Wisconsin
Ze—Zerk
Zs—Zinks

V-Cantilever
Var-Varies
X-Sleeve valve
Y-Yes

PS—Splash with pressure
Pu—Pump
Q—Quarter elliptic
R—Rectifier
S—Semi-elliptic
S—Searate

OW—Oil cups with wick feed
SP—Single plate
PR—Pressure gun
OC—Oil cups

I—In head
Int—Integral
I-F—Internal four wheels
I-R—Internal rear wheels
T—Three-quarter elliptic
C—Cone

3—F—External four wheels
 3—R—External rear wheels
 3—T—External transmission
 F—Fabric
 F—Filter

AA—Air
 AL—Aluminum
 BS—Semi-steel
 IB-1'—Both internal and
 external four wheels

What Will
STEWART-WARNER
Do Next

A black and white advertisement for Stewart-Warner car accessories. The central focus is a Christmas tree shape composed of various car accessories, each with a circular price tag. The accessories include a siren (\$15.00), a horn (\$5.00), a light (\$4.25), a bellows (\$2.00), a horn (\$2.00), a light (\$8.50), a light (\$20.00), and a siren (\$9.00). The tree is decorated with garlands and lights. Below the tree is a sign that reads: "GIVE Stewart-Warner ACCESSORIES for Christmas 'They will please every Motorist'". To the left of the sign is a motor horn with the text "Stewart MOTOR HORN". To the right is a speedometer with the text "Stewart SPEEDOMETER".

GIVE
Stewart-Warner
ACCESSORIES
for Christmas
"They will please every Motorist"

Stewart MOTOR HORN

Stewart SPEEDOMETER

Xmas Display Cut-Out for STEWART-WARNER Dealers Sell Useful Gifts—Make Useful Profits

There are so many car owners who actually need—and will appreciate—these Stewart-Warner Accessories—that every effort should be made by car and accessory dealers to bring this fact to the attention of Gift Buyers. To make this a nation-wide Accessory Christmas we have prepared a very attractive window display cut-out—as shown on page opposite—in SIX colors—46 inches high by 30 inches wide.

The “flame” on the candles may be left in or pushed out and electric bulbs of various colors inserted. An on-an-off switch may be used to further the attention value.

This, with the beauty and brilliance of the Stewart-Warner Accessory Family, will create customers who would otherwise spend their money for less valuable gifts elsewhere. This profit can easily be yours.

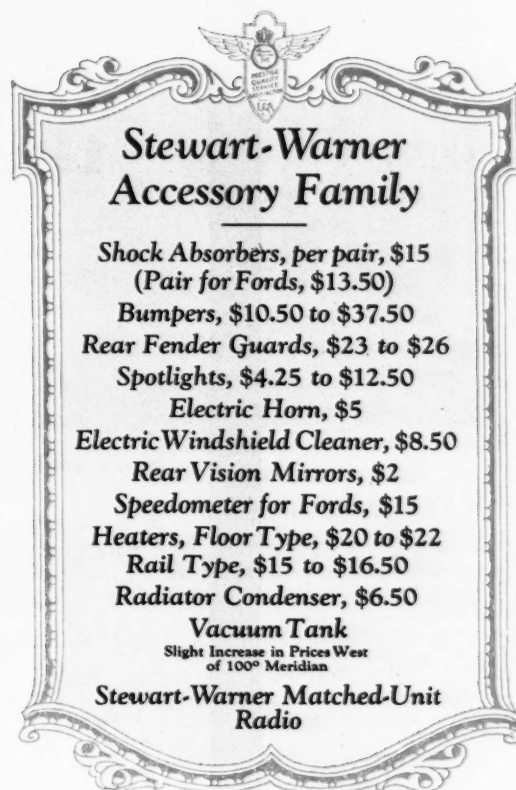
HOW TO GET THE XMAS DISPLAY: These cutouts are now ready for distribution by Stewart-Warner Products Service Stations thruout United States and Canada. A letter, phone or wire will speed one on its way to you. Refer to the Stewart-Warner double page ad in Motor Age Oct. 29 for address of Service Station nearest you.

Start your Christmas Window Display December 1st.

STEWART-WARNER SPEEDOMETER COR'N, CHICAGO, U. S. A.

Stewart-Warner Accessories

TWELVE MILLION PEOPLE ARE TODAY USING STEWART-WARNER PRODUCTS



Quick Delivery Service to Dealers

Stewart-Warner Products Service Stations—62 of them in U. S. and Canada—are so situated that all dealers are within quick delivery radius.

Merely a few hours or over-night will replenish your stock on any Stewart-Warner Product.

No need to load up with a big stock. The Stewart-Warner Service Station carries that for you.

This is a happy thought for Stewart-Warner Dealers now that inventory time is approaching.

Quality features—

**that make Chevrolet
the finest low priced car**

Scores of unusual features—83 in all—provide Chevrolet with the same type of quality that people pay thousands of dollars for in high-priced cars.

This unusual degree of quality in Chevrolet design and construction—easy for anyone to see and appreciate—is the biggest factor in the record breaking sale of Chevrolet cars in 1925.



QUALITY AT LOW COST

NO. 8 OF A SERIES OF ADVERTISEMENTS EXPLAINING ARROW HEAD METHODS OF MANUFACTURE

Arrow Head



Slushing Arrow Head Parts in oil and packing them

Packed as perfectly as they're made

EVERY Arrow Head Part is given a final thorough inspection that insures perfection of every measurement and weight. Each piston and piston pin is then wrapped individually in special oiled tissue, after first being thoroughly slushed in rust-resisting oil. The pistons are packed in balanced sets in sturdy corrugated cartons, labelled and sealed. Axle and drive shafts are packed in paper-lined wooden cases, after first being slushed in rust-proof oil. These are the final steps that insure your getting perfect replacements—in perfect condition. Such parts protect your reputation.



Each genuine Arrow Head part is marked with an Arrow Head

Send for our new booklet giving practical hints on installing replacements and outlining Ten Profitable Opportunities for Motor Repair Men. It is a valuable book and well worth sending for. A post card brings it—FREE. Write now.

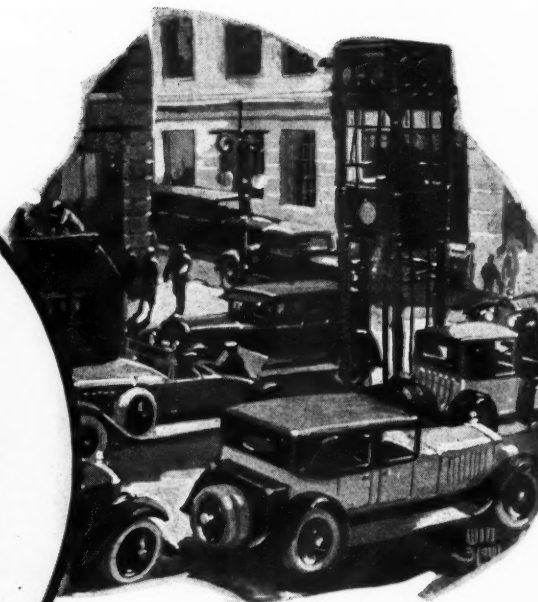
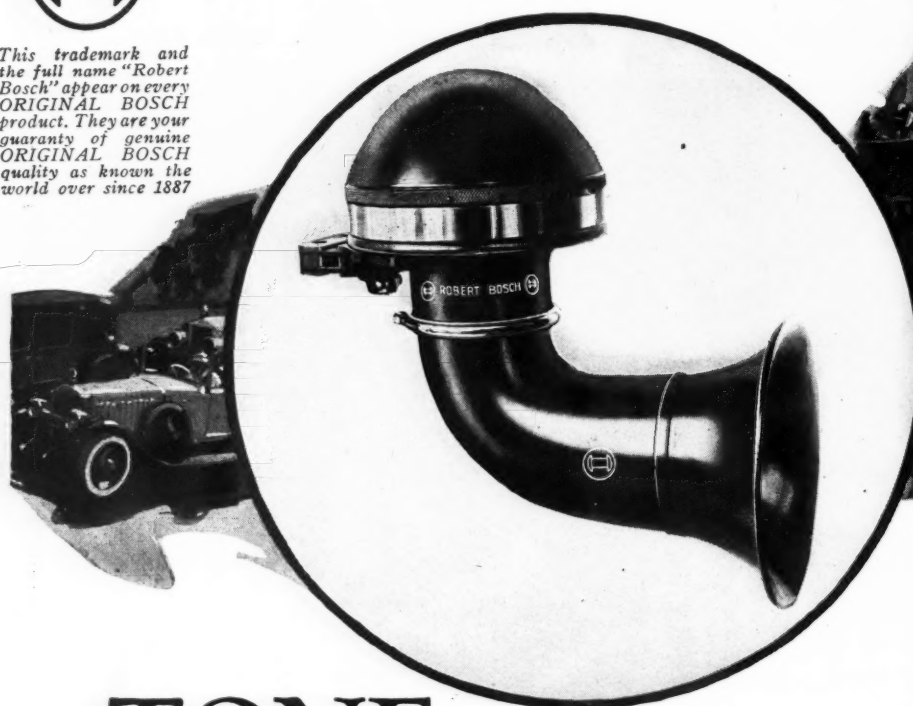


ARROW HEAD STEEL PRODUCTS COMPANY
Minneapolis, Minnesota

Pistons ♣ **Piston Pins** ♣ **Axle and Drive Shafts**



This trademark and the full name "Robert Bosch" appear on every ORIGINAL BOSCH product. They are your guaranty of genuine ORIGINAL BOSCH quality as known the world over since 1887



PRICES

"Master" for large cars, motor
busses and motor boats \$25
"Standard" for passenger cars \$21
"Junior" for motorcycles \$16

TONE makes this horn truly . . *"The voice of the fine car"*

MUSICAL, yet positive in its warning — clear, vibrant, penetrating—the tone of the *Original* Bosch Horn is unlike that of any other warning signal.

The *Original* Bosch Horn is of the vibratory type. Its action is lastingly trouble-proof. No motor to wear out or give trouble. It is in every way up to the high standard of *Original* Bosch.

No wonder owners of fine motor cars are buying it, not only to replace worn-out equipment but often to put on the new car in place of the horn they find there.

Our dealers everywhere are finding this horn a quick selling and profitable item. If you are

not already carrying it, write us for details of selling plan. You have the opportunity to do a neat business if you act quickly. Address: Robert Bosch Magneto Company, Inc., 109c West 64th St., New York. Chicago Branch: 1302 South Wabash Ave.

NOTE

No finer tribute can be paid the *Original* Bosch Horn than the way it is being imitated. But remember: the *Original* Bosch Horn owes its popularity to the high standard of materials and workmanship which characterize it and all *Original* Bosch products. To give your customers this quality, you must give them *Original* Bosch. Look for the name Robert Bosch and this trademark on every *Original* Bosch product. They are your guaranty of *Original* Bosch quality as known the world over since 1887.



The Original Bosch

ROBERT · BOSCH · MAGNETO · COMPANY · INC.

No connection whatsoever with the American Bosch Magneto Corporation



What You Pay for Rivets Doesn't Enter Into It ~

The Kind You Use Makes the Big Difference

IF RIVETS cost twice as much as they do now, there would be no reason for charging a nickel more for brake lining jobs. 15 cents worth of rivets will supply a 15 dollar job, 30 cents worth takes care of a 30 dollar job; yet some service men are more indifferent to quality than they are to price.

There's a vast difference in rivet quality. Don't forget that. If they were all alike, New York's Yellow Cab Company, Fifth Avenue Bus Company, Wanamaker Stores Company, and other big fleet owners wouldn't insist on, and pay a higher price for Penn Rivets! This superior quality is shown by the way Penn Rivets hang on to the brake lining to the last paper-thin layer.

The Best Rivet Metal An Improved Design

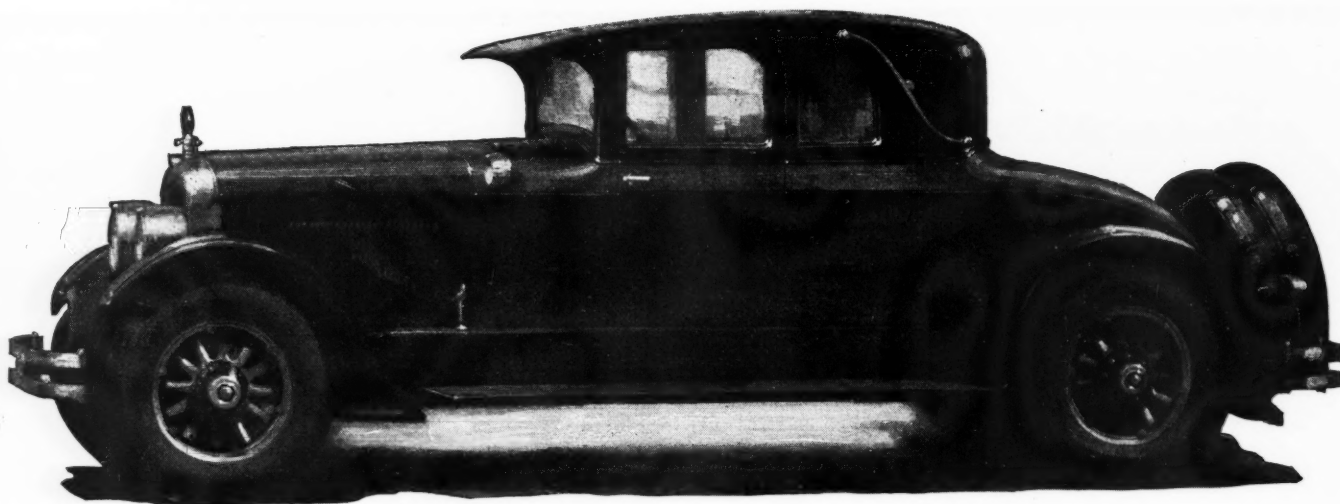
PENN, trademarked, rivets are made in brass or dead-soft aluminum. The latter are most widely used because this metal has proved itself far better than brass or copper in that it does not score the brake drums, does not crystallize under heat and friction, and is tough and fibrous as well as soft.

The large, flat head of Penn Rivets takes a grip on a large area of lining and holds it to the limit. The semi-tubular shank takes a perfect roll clinch yet has all the strength of solid metal. Penn Rivets are sold through the regular wholesale channels only. Ask your jobber about the handy Penn Rivet Cabinets.



Penn Riv-Kit. 34 sizes of Penn Rivets that will service most brake lining jobs. List prices—Brass, \$27.68. Dead-Soft Aluminum, \$26.62. 4 other size cabinets for Brake Service Stations.

PENN RIVET CORPORATION
MAKERS OF PENN RIVETS AND PENN RIVETING EQUIPMENT
3rd & Huntingdon Sts., Philadelphia



The Marmon Victoria Coupe

and now, *EXACT* Carburetion for MARMON

Proof!

THE NEW SCHEBLER MODEL "S" CARBURETOR

is giving *Exact* Carburetion as
standard equipment on the fol-
lowing automobiles:

Apperson
Auburn
Bauer Taxicab
Bay State
Case
Chandler
Cleveland
Dagmar
Duesenberg
DuPont
Elcar
Gardner
Kissel
McFarlan
Marmon
Rajo Heads
Reo
Revere
Roamer
Wills-Ste. Claire

"A GREAT AUTOMOBILE" this month joins the users
of the Schebler Model "S" Carburetor, which is now
standard equipment for Marmon.

Exact Carburetion is the result of Schebler Model "S" design
and of accurate manufacture. The superior performance ob-
tained with Schebler *Exact* Carburetion has been proved to
an imposing list of automobile manufacturers who are using
Schebler as standard equipment.

Exact Carburetion means easy starting in any weather—more
power—smooth idling—faster acceleration—maximum
economy.

Any good automobile performs better in every way with the
Exact Carburetion given by the Schebler Model "S" Carbu-
retor. The list of cars having Schebler as standard equipment
is more convincing proof with the notable name of Marmon
added to it.

*Dealers find the Schebler Franchise a valuable asset to
their business—with every sale they make creating a
new booster. Write at once to find out whether this val-
uable Schebler Franchise is available in your territory.*

WHEELER-SCHEBLER CARBURETOR COMPANY
INDIANAPOLIS

SCHEBLER
*The World's
Finest* **CARBURETORS**

They all agree



the Scientist



the Engineer



the Garageman



the Car Owner

That's why the
American Hammered
Piston Ring is America's
leading replacement
ring **TODAY** &

Here are the opinions of Engineers *and* Scientists:

Backed by Engineering Authority

In Europe, where engineering practices are very thorough and exact, *hammered* piston rings are used almost universally.

A leading European automotive publication in describing the most perfect type of piston ring says:—

“— the necessary spring (tension) is imparted to the rings by an *internal hammering action* applied with a specially devised tool. These piston rings have been found to be more satisfactory and are in general practice at the present time.”

—From “MOTOR TRANSPORT,” London.
(A recognized automotive authority)

(This description exactly fits American Hammered Piston Rings)

**In America,
too**

In America, too, the principle of hammering (or peening) has been endorsed by the best engineers. Almost every leading make of car and truck built in U. S. at some time during the past five years has chosen American Hammered Piston Rings after careful tests and installed them as standard equipment.

American *Hammered* Piston Rings

Here is the endorsement of garagemen *and* car owners:

*— In less than five years the
American Hammered Piston Ring
has won its way into first place —
America's Leading Replacement Ring*

Service men know they can depend on American Hammered Piston Rings to give permanently satisfactory service.

Often they tell us of American Hammered equipped motors which have gone from 45,000 to 100,000 miles—and still show round cylinders, full tension in the rings, and absolutely no trace of a compression leak.

That's why each succeeding year has produced new high sales marks for American Hammered. And 1925 has long since passed any other year in sales.

AMERICAN HAMMERED PISTON RING CO.
BALTIMORE, MD.

FACTORY STOCKS:

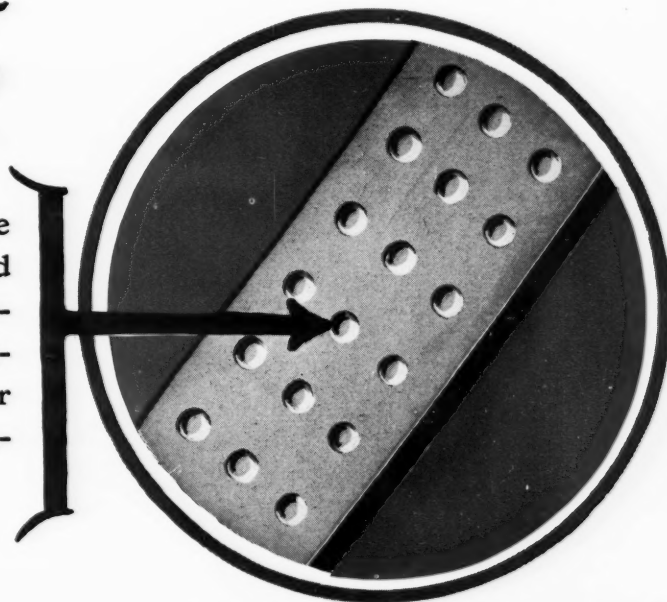
BALTIMORE
Bush and Hamburg

CHICAGO
2332 S. Michigan Boulevard

SAN FRANCISCO
931 Larkin Street

*Permanent Tension —
the secret of the best piston
ring performance ~ ~*

These ball point hammer marks on the inner surface of American Hammered Piston Rings are your assurance of permanent tension. These rings are hammered with scientific precision in our specially designed and patented hammering machines.



*Look
for the
BALL POINT
HAMMER
MARKS
inside the
ring*

A reputation for fair dealing



HIS company enjoys a reputation throughout the automotive world for sound merchandising and fair dealing.

Experience has shown the trade that the American Hammered line is safe to handle. Our distributor and service station list includes some of the most prominent and progressive firms in the country.

The low list price of American Hammered Piston Rings brings permanent piston ring satisfaction within the reach of every car owner—and a steadily increasing business to our dealers.

American Hammered Piston Rings

25^c is now the price
of Special for
Ford Rings

Quantity production, induced by the tremendous popularity and unusually heavy demands for this ring during the last eighteen months, has made this new price possible.

The American Hammered Piston Ring Company is protecting its dealers against this price decline by rebating them for any rings still in stock.



*Look
for the
BALL POINT
HAMMER
MARKS
inside the
ring*



New Departure Ball Bearings

YOU never have to replace the jewels in your watch—friction is so reduced and the jewels are so hard and enduring.

For that same reason, the bus, truck or passenger car which is “full-jeweled,” completely equipped with New Departure Ball Bearings, is ideal.

New Departures do not *wear in* to require adjustment nor *wear out* to need replacement. They permit permanently aligned wheels as well as gears and pinions. Correct assembly, originally simple, is fixedly maintained. Gears once properly meshed retain their silent setting.

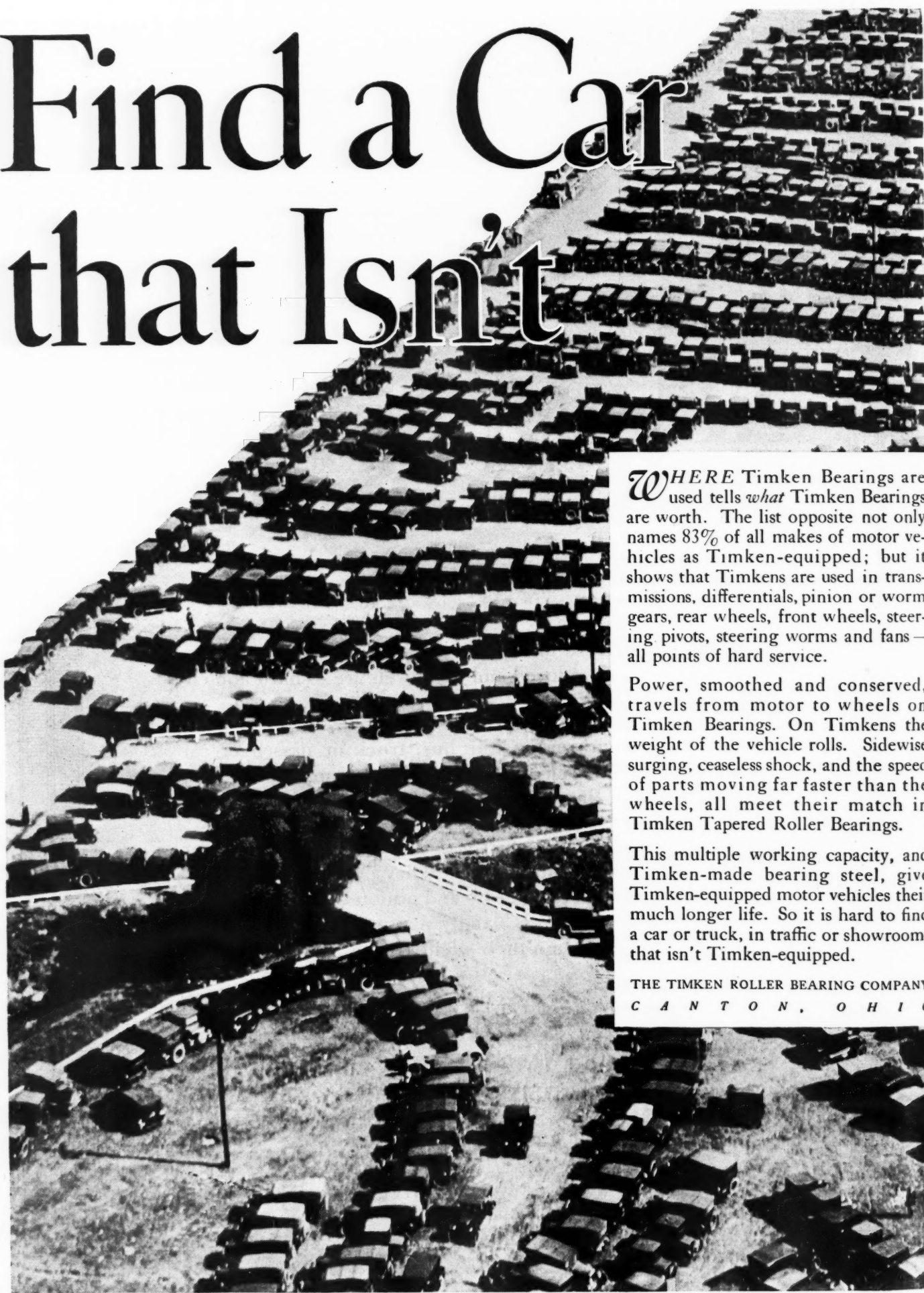
Ask for folder: “What Jewels Are To a Watch, Ball Bearings Are To a Motor Car.”

THE NEW DEPARTURE MANUFACTURING COMPANY
CHICAGO BRISTOL, CONNECTICUT DETROIT

72

Outsell Because They Excel

Find a Car that Isn't



WHERE Timken Bearings are used tells *what* Timken Bearings are worth. The list opposite not only names 83% of all makes of motor vehicles as Timken-equipped; but it shows that Timkens are used in transmissions, differentials, pinion or worm gears, rear wheels, front wheels, steering pivots, steering worms and fans — all points of hard service.

Power, smoothed and conserved, travels from motor to wheels on Timken Bearings. On Timkens the weight of the vehicle rolls. Sidewise surging, ceaseless shock, and the speed of parts moving far faster than the wheels, all meet their match in Timken Tapered Roller Bearings.

This multiple working capacity, and Timken-made bearing steel, give Timken-equipped motor vehicles their much longer life. So it is hard to find a car or truck, in traffic or showroom, that isn't Timken-equipped.

THE TIMKEN ROLLER BEARING COMPANY
CANTON, OHIO



The locations of Timken Bearings in each car or truck are designated by numbers, as follows:

Transmissions . . . 1
Differentials . . . 2
Pinions or Worms . . . 3
Rear Wheels . . . 4
Front Wheels . . . 5
Steering Pivots . . . 6
Steering Worms . . . 7
Fans . . . 8

PASSENGER CARS

Ajax . . . 2, 3, 4, 5
Apperson . . . 1, 2, 3, 4, 5
Auburn . . . 2, 3, 4, 5
Cadillac . . . 4, 5
Chandler . . . 2, 3, 5
Chrysler . . . 2, 3, 4, 5
Cleveland . . . 2, 3, 4, 5
Cunningham . . . 1, 2, 3, 4, 5
Dagmar . . . 1, 2, 3, 4, 5, 6
Davis . . . 2, 3, 4, 5
Detroit Electric . . . 4, 5
Dodge . . . 2, 3, 4, 5
Dorris . . . 2, 3, 4, 5, 6
Driggs . . . 2, 4, 5
du Pont . . . 2, 4, 5
Durant (Canada) . . . 3, 4, 5
Elcar . . . 2, 4, 5
Easex . . . 2, 3, 4, 5
Ford . . . 5
Gray . . . 1, 2, 3, 4, 5
Hudson . . . 2, 3, 4, 5
Hupmobile . . . 2, 4, 5
Jewett . . . 2, 3, 4, 5
Jordan . . . 2, 3, 4, 5, 8
Kissel . . . 2, 3, 4, 5, 6
Lexington . . . 1, 4, 5
Lincoln . . . 2, 3, 4, 5, 6
Locomobile . . . 5, 7
Marmon . . . 5
McFarlan . . . 1, 2, 3, 4, 5
Moon . . . 2, 3, 4, 5

Paige . . . 2, 3, 4, 5
Peerless . . . 2, 3, 4, 5
Pierce-Arrow . . . 2, 3, 4, 5
Rauch-Lang . . . 2, 5
Reo . . . 2, 3, 4, 5, 6
Roamer . . . 2, 3, 4, 5, 6
Sayers & Scovill . . . 2, 3, 4, 5, 6
Stanley Steamer . . . 5
Star (Canada) . . . 3, 4, 5
Stearns-Knight . . . 2, 3, 4, 5
Sterling-Knight . . . 2, 3, 4, 5
Studebaker . . . 2, 3, 4, 5, 6
Stutz . . . 2, 3, 4, 5
Velie . . . 2, 3, 4, 5
Wills-Ste. Claire . . . 2, 3, 4, 5

Willys-Knight . . . 2, 5, 6
Willys-Overland . . . 2, 5
Yellow Cab 1, 2, 3, 4, 5

FOREIGN

PASSENGER CARS

A. C . . . 2
Albert . . . 2, 3
Alvis . . . 3
Arrol-Johnston . . . 2, 3, 4, 5
Auto Excelsior . . . 2, 3, 4
Auto Traction . . . 5
Bayless Thomas . . . 5
Bean . . . 5
Beardmore Taxi . . . 2, 3, 4, 5
Bellanger . . . 5
Belsize . . . 2, 3, 4, 5
Bentley . . . 4, 5
Berliet . . . 2, 3, 4
Beverly Barnes . . . 6
Calcott . . . 2, 5
Calthorpe . . . 2, 3, 4, 5
Clement Bayard . . . 2
Clyno . . . 2, 3, 4, 5
Cottin Desgouttes . . . 6
Crossley . . . 5
Daimler . . . 6, 7
Darracq . . . 5
Deemster . . . 2, 5
Delaunay Belleville . . . 2, 3
Diatto . . . 2, 3, 5
Ford . . . 5

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Hampton . . . 5
H. E. . . . 7
Hillman . . . 5
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Humber . . . 2, 4, 5
Isotta Fraschini . . . 5
Itala . . . 5
Lagonda . . . 3, 5
Lanchester . . . 6
Mathis . . . 4
McKenzie . . . 2, 3, 4, 5
Mors . . . 4, 5
Motobloc . . . 1
Overland . . . 2, 5
Palladium . . . 2, 3, 4, 5
Phoenix . . . 2, 3, 4, 5
Rhode . . . 5
Seabrook . . . 2, 3, 4, 5
Standard . . . 6
Sunbeam . . . 5
Swift . . . 5
Talbot . . . 5
Waverly . . . 5
Whitlock . . . 5
Windsor . . . 2, 3
Wolsley . . . 2, 3, 4, 5, 7

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Ahrens-Fox . . . 4, 5, 6
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Appleton . . . 2, 3, 4, 5
Armleder . . . 1, 2, 3, 4, 5, 6
Atterbury . . . 1, 2, 3, 4, 5, 6
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Bessemer . . . 1, 2, 3, 4, 5
Bethlehem . . . 4, 5
Betz . . . 1, 2, 3, 4, 5, 6
Biederman . . . 1, 2, 3, 4, 5
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Brockway 1, 2, 3, 4, 5, 6
Chicago . . . 1, 2, 3, 4, 5, 6
Clinton . . . 1, 2, 3, 4, 5, 6

Clydesdale . . . 1, 2, 3, 4, 5, 6
Coleman . . . 4
Columbia . . . 1, 4, 5
Commerce 1, 2, 3, 4, 5, 6
Concord . . . 1, 2, 3, 4, 5, 6
Corbitt . . . 1
C. T. Electric . . . 4, 5, 6
Cunningham 1, 2, 3, 4, 5
Day Elder 1, 2, 3, 4, 5, 6
Defiance . . . 2, 3, 4
Denby . . . 5
De Martini . . . 1
Diamond T . . . 1, 2, 3, 4, 5, 6

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Doane . . . 1, 2, 3, 4, 5
Dodge . . . 2, 3, 4, 5
Duer . . . 2, 5
Eagle . . . 2, 3, 4
Facto . . . 2, 3, 4, 5, 6
Fageol . . . 1, 2, 3, 4, 5, 6
Federal . . . 2, 3, 4, 5, 6
Fifth Ave. Coach . . . 1, 2, 3, 4, 5
Ford . . . 5
F. W. D. . . . 4, 5
Garford . . . 1, 2, 3, 4, 5, 6
Gary . . . 1, 2, 3, 4, 5, 6
G M C . . . 2, 3, 4, 5, 6
Gotfredson . . . 1, 2, 3, 4, 5, 6
Graham Bros. . . . 2, 4, 5, 6
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Hahn . . . 1, 2, 3, 4, 5, 6
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Hurlbut . . . 1, 2, 3, 4, 5
Hewitt-Ludlow . . . 1, 5
Indiana . . . 1, 2, 4, 5, 8
International H. C. . . . 1, 2, 3, 4, 5
Kelly-Springfield . . . 1, 2, 3, 4, 5, 8
Kenworth . . . 1
Kimball . . . 1, 2, 3, 4, 5, 6
King-Zeitler . . . 1, 2, 3, 4, 5, 6

Kleiber . . . 1, 2, 3, 4, 5, 6
Krebs . . . 1, 2, 3, 4, 5, 6
Lange . . . 1, 2, 3, 4, 5, 6
Lansden . . . 2, 3, 4, 5, 6
Larabee . . . 1, 2, 5
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Mack . . . 1, 2, 3, 4, 5, 6, 7
Master . . . 2, 3, 4, 5, 6
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Moreland 1, 2, 3, 4, 5, 6
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Nelson and Le Moon . . . 1, 2, 3, 4, 5, 6, 8
Nelson (Jumbo) . . . 1, 5
Netco . . . 1, 2, 3, 4, 5, 6
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New York . . . 2, 3, 4, 5, 6
Noble . . . 2, 4, 5
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Ogden . . . 1, 2, 3, 4, 5, 6
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Olympic . . . 1, 2, 3, 4, 5, 6
Oneida . . . 2, 3, 4, 5, 6
Oshkosh . . . 1, 4, 5, 6
Patriot . . . 2, 3, 4, 5
Pierce-Arrow . . . 1, 2, 3, 4, 5, 6, 7, 8

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Reliance . . . 2, 3, 4, 5
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Revere . . . 1
Riddle . . . 1, 2, 3, 4, 5
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Rowe . . . 1
Ruggles . . . 1, 4, 5
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Schacht . . . 4, 5
Seagrave . . . 1, 2, 3, 4, 5, 6, 7
Seldon . . . 1, 2, 3, 4, 5, 6
Service . . . 1, 2, 3, 4, 5, 6
Six Wheel . . . 1, 2, 3, 4, 5, 6, 7, 8
Standard . . . 1, 2, 3, 4, 5, 6, 8
Sterling . . . 1, 2, 3, 4, 5, 6
Stewart . . . 2, 4, 5
Sullivan . . . 1, 2, 3, 4, 5, 6
Tait . . . 1, 2, 3, 4, 5, 6, 8
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Trabold . . . 2, 3, 4
Traffic . . . 5
Twin City . . . 2, 3, 4, 5, 6
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Union . . . 2, 3, 5
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Uppertu . . . 1
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Walker . . . 2, 3, 4, 5, 6
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Ward La France . . . 2, 3, 4, 5
Watson . . . 1, 2, 3, 4
White . . . 1
Wichita . . . 1
Wilcox . . . 1, 2, 3, 4, 5
Willys-Overland . . . 2, 5
Wilson . . . 5
Wilson, J. C. . . . 1, 2, 3, 4, 5, 6
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Bean . . . 5
Beardmore 30-cwt. . . . 2, 3, 4, 5
Birmingham Red . . . 4, 5
Buses . . . 4, 5
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Crossley-Subsidy . . . 4, 5
Daimler 2-Ton . . . 4
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Electromobile . . . 4, 5
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Guy . . . 5
G. V. Electric . . . 1, 4, 5
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Karrner . . . 1, 4, 8
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Pagefield . . . 2
Ransome . . . 4
Star . . . 1, 2, 4, 5
Thornycroft . . . 4, 5
Yorkshire Steamer 1, 3

Photo Courtesy
Motor Age

TIMKEN

Tapered

ROLLER BEARINGS

Rickenbacker

A • CAR • WORTHY • OF • ITS • NAME

Rickenbacker Cars Sell On Performance

The average buyer of today demands performance.

He requires, in the car he buys, a degree and a phase of performance such as were unknown to the buyer of yesterday.

Promises do not impress him.

He insists on seeing the car perform.

Ninety-nine times in one-hundred he is an experienced, seasoned driver.

So he wants to take the wheel himself—then he knows whether it is in the car—or the driver.

It is hard sledding these days for the dealer or the salesman whose car is not capable of selling itself.

Rickenbacker dealers are in clover—for that very reason that this

car does sell itself—does it on performance.

With the hands of a prospect on the wheel of a Rickenbacker (whether a Six or a Vertical-8) this car is most eloquent.

Its response is instant to any demand he may make upon it.

And it is the delight of Rickenbacker salesmen to look on while the prospect exhausts his own resourcefulness, then to suggest other and more amazing things which are in this car's repertoire.

If you have not, yourself, driven this car, then you can have no idea how easy it is to sell.

You do know they sell readily—and you have wondered wherein was the magic.

That's the secret—performance.

Rickenbacker Motor Company
Detroit, Michigan

Famous "Six" Prices

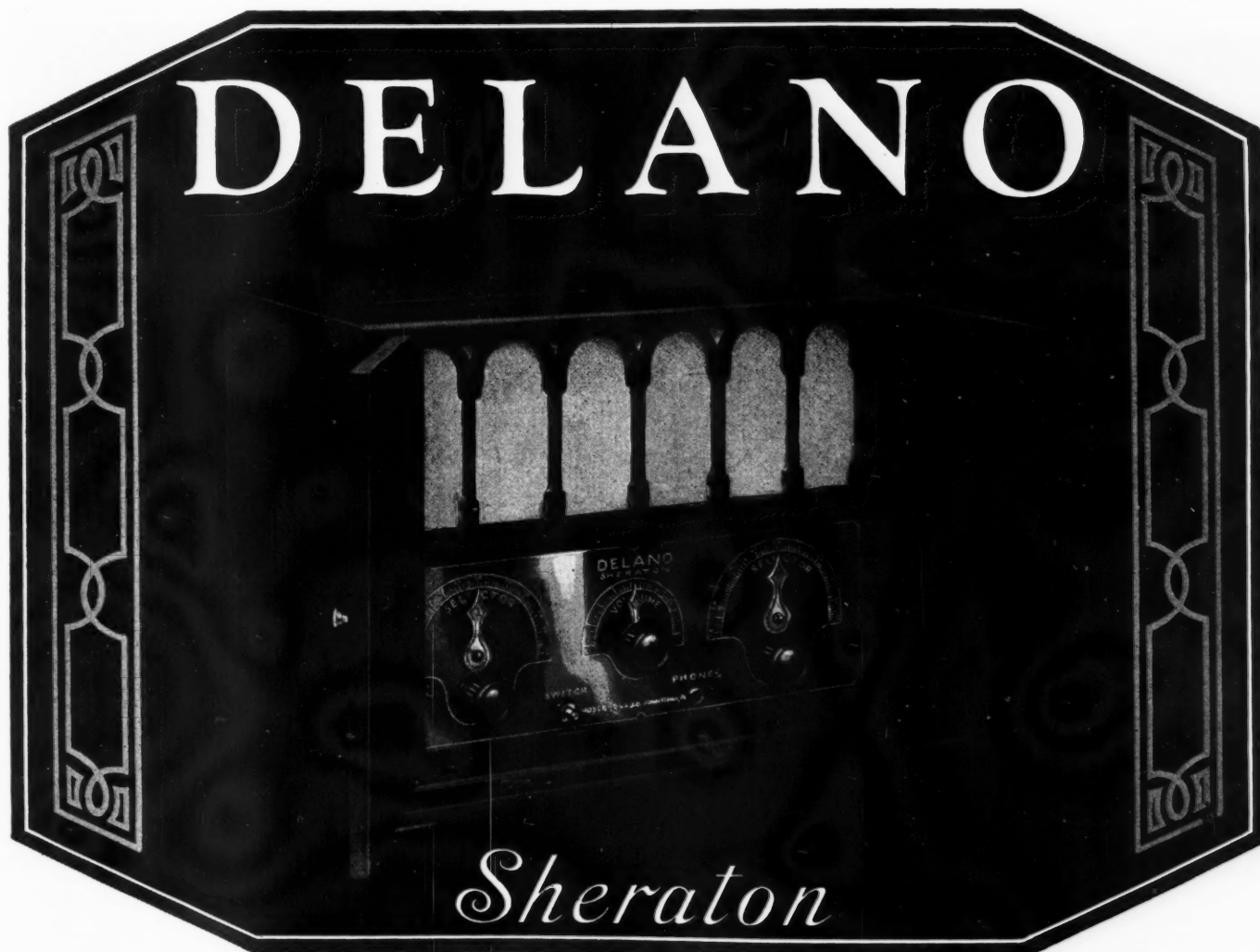
Phaeton	-	-	-	\$1495
Brougham	-	-	-	1595
Roadster	-	-	-	1595
Coupe-Roadster	-	-	-	1695
Sedan	-	-	-	1795
De Luxe Coupe	-	-	-	1995



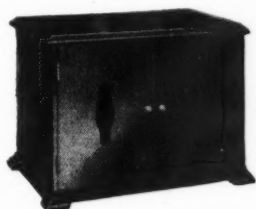
f. o. b. factory—plus wear tax

Vertical "Eight" Prices

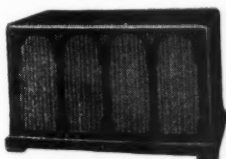
Phaeton	-	-	-	\$1995
Brougham	-	-	-	1995
Roadster	-	-	-	1995
Coupe-Roadster	-	-	-	2095
Sedan	-	-	-	2195
De Luxe Coupe	-	-	-	2320



Sheraton



Just the right size. Beautiful finish. Folding doors inclose dials, loudspeaker, and all.



Delano Loudspeaker—inductive-magnetic action—complete with solid mahogany cabinet as shown, \$30.00.

If You're Ever Going Into the Radio Business—

WHY not NOW—with a seventy-five dollar set that has features unobtainable elsewhere at any price—and exclusive rights to the wonderful Delanos de Luxe which are to follow.

Delano inductive-magnetic action, wonderful range and quality of tone, controlled volume, elimination of distortion, selectivity within a few kilocycles, permanently set rheostats, no power tubes—these and other new, different, basic advantages only to be found in Delano sets.

Volume business as well as quality leadership are offered the Delano Dealer—and an exclusive, permanent, profitable contract.

Your letter or wire will get prompt attention. Better send it NOW!

MODERNOLA COMPANY, Inc.

Department B
Johnstown, Pa.

This 5-Tube
genuine De-
lano Sheraton

\$75⁰⁰

(without
accessories)

Built in Loudspeaker
Solid Mahogany
Cabinet
Room for Batteries
Marvelous Delano
Hook-up
Indoor or Outdoor
Aerial.

MODERNOLA COMPANY, Inc.
Dept. B
Johnstown, Pa.
Gentlemen: Please send full details
for territory covering _____

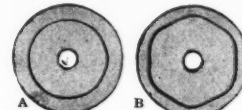
Name _____
Address _____



The Oakland Harmonic Balancer

This new and exclusive feature imparts an unmatched freedom from vibration to the Oakland Six engine, and in a manner that is simplicity itself. Torsional vibration in any automobile engine is caused by the twist of the crankshaft under repeated piston impulses. The Harmonic Balancer—built into the Oakland crankshaft—exerts an equal twisting force in the opposite direction, which counteracts the twist of the crankshaft, thus stopping vibration at its source. This means new thrills of motoring pleasure, longer car life.

A. New Oakland Six engine with the Harmonic Balancer—uniformly smooth at all speeds.



B. Six-cylinder engine without Harmonic Balancer—not uniformly smooth—having vibration periods.

Readings taken with the crankshaft indicator, a device for measuring torsional vibration.

The overwhelming demand for the new Oakland Six emphasizes again one of the outstanding advantages of the Oakland franchise—the Oakland line *moves rapidly*, permitting Oakland Dealers to turn their capital frequently and reap correspondingly larger profits.

Roadster	Touring	Coach	Landau Coupe	Sedan	Landau Sedan
\$975	\$1025	\$1095	\$1125	\$1195	\$1295
(Old Price \$1095)	(Old Price \$1095)	(Old Price \$1215)	(Old Price \$1295)	(Old Price \$1545)	(Old Price \$1645)

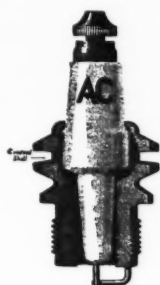
All Prices at Factory

WINNING AND HOLDING GOOD WILL
OAKLAND SIX
 PRODUCT OF GENERAL MOTORS



What AC Means to the Dealer

New AC Spark Plugs



A new design, new alloy for sparking points, new electrically fused Kyanite insulator core and a new glaze.

AC Carbon-proof Plugs are also made in all sizes.

The demand for AC Spark Plugs is assured through their use as factory equipment on the following cars:

Ajax	Davis	Nash
Apperson	Dodge	Oakland
Buick	Brothers	Oldsmobile
Cadillac	Durant	Paige
Case	Essex	Star
Chandler	Flint	Velie
Chevrolet	Hudson	Westcott
Chrysler	Hupmobile	Wills Sainte Claire
Cleveland	Kissel	
	Marmon	

New AC 1075 for Fords



The special features of the AC 1075 make it the most desirable plug for Fords. Dealers are building a big and profitable business by emphasizing these features in making sales:

- 1 Spring Terminal Clip
- 2 Heavy Body Porcelain
- 3 Hexagon of extra length permits easy and positive application of spark plug wrench
- 4 High Temperature Fins — Patented carbon-proof Porcelain
- 5 Drip electrode forms natural Oil Drain

Made in both one and two-piece design.

DEALERS who carry AC products can build a profitable business.

The demand is assured because of their use as car equipment.

They are backed by strong advertising.

AC Spark Plug Company, FLINT, Michigan
Makers of AC Spark Plugs—AC Speedometers—AC Air Cleaners

AC-SPHINX
Birmingham
ENGLAND

AC-OLEO
Levallois-Perret
FRANCE

AC Speedometers



The Model for Fords

There is proof of the quality of AC Speedometers in the fact that they are used as original factory equipment on Buick, Cadillac, Chandler, Chevrolet, Chrysler, Gray, Oakland, Oldsmobile, Peerless and G.M.C. trucks.

The AC Speedometer for Fords is of the same quality as furnished the above manufacturers for their original factory equipment.

The AC Direct Drive does away with the troublesome swivel joint and insures continuously satisfactory service.

Packed complete with all attachments.

AC Air Cleaners



The AC Air Cleaner prevents dust from entering the motor through the air intake of the carburetor.

Dust is the same as an abrasive compound and causes excessive wear on all the motor's moving parts.

AC Air Cleaners are original factory equipment on the 1926 models of Nash, Buick and Oakland.

Installation is easy as it connects directly to the carburetor. Once installed it requires no attention as there are no moving parts to get out of order. Packed complete with all attachments.

Models are now ready for Chevrolet, Chrysler Four, Dodge Bros., Ford, Maxwell, Oldsmobile, Star, Studebaker, as well as the 1925 and earlier models of Buick, Nash and Oakland.

Do You Read Our Editorials?

EVERY once in a while we discover a reader who goes through each issue of MOTOR AGE with great care, and yet manages never to read an editorial.

This raises the question, "Why is an editorial?" You may be quite certain editorials are not written just to fill space, for space in MOTOR AGE is too valuable a commodity to be used in that way. They are meant to be read, and read by just such people as the reader described. Because we believe that it is important that our editorials be read, we see that they are printed in rather large type, well displayed, and inviting to the eye.

Our editors are well informed men. They study their field—your field—continually. In the process they gain many impressions and form many opinions about the same things that occupy *your* mind when you consider the problems of your own business. They cannot afford to

be dogmatic about these things, nor make their conclusions the basis of authoritative articles, for they may be mistaken. But they can tell you what they think and why—they can pass on to you their personal opinions for you to match against your own. And it is in their editorials that they can do this.

If you could drop into our office once a week for an informal talk with our editors, you would probably gain much by getting their slant on the various controversial questions that you, as a member of the trade, are deciding or helping to decide. By the same token you can gain much by reading our weekly editorials, for it is just here that our editors do talk to you informally, and tell you what they are thinking of on a host of subjects intimately related to your business.

Turn to our editorial page, and see if you don't agree.

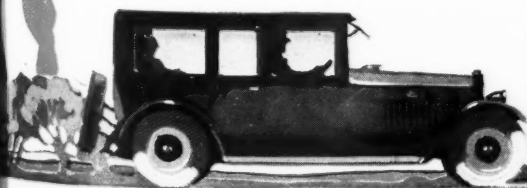


Smooths the Road

Best for Balloon
Tires, Too

—a practical, dependable shock absorber, moderate in cost and widely advertised. It can be easily adjusted for balloon or high pressure tires—no special types needed. A small stock gives frequent turnovers and pays big profits.

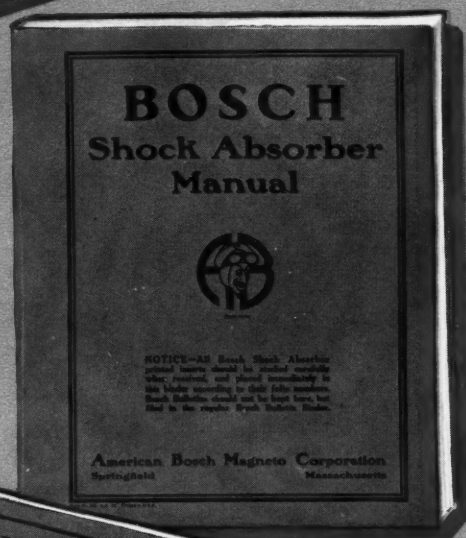
For Fords (3-Point Control Set, Complete) \$16.50 per set
Medium cars \$15 per pair Heavy cars \$20 per pair



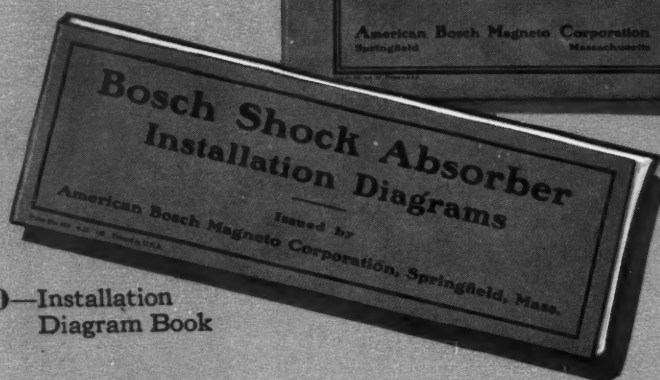
BOSCH SHOCK ABSORBER



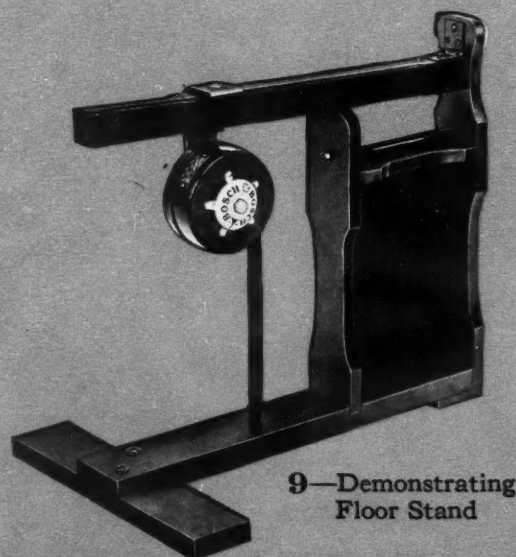
1—
Large
Metal Sign



11—Service
Manual



10—Installation
Diagram Book



9—Demonstrating
Floor Stand

Real Helps SALES

Dealers who sell Bosch Shock Absorbers are instructed and assisted by Bosch Representatives, and generously provided with high grade sales and service helps. Bosch displays and signs make it easy to tie up with the big advertising campaign now appearing in the leading magazines. Bosch instruction books, diagrams, etc. make installations easy and simple. The accompanying illustrations show—

1—**Metal Sign**, 24" x 36", for hanging at entrance to store or shop—designates your place as headquarters for Bosch Shock Absorbers.

2—**Metal Tack-up Sign**, 14" x 20", supplied with your imprint for tacking on fences, trees, etc. along motor highways.

3—**Counter Card**, 9" x 12", for standing on counter or hanging on wall. Has folding easel for supporting it on counter.

4—**Ford Counter Card**, 12" x 18", for advertising the Bosch-Ford 3-point Control Set.

5—**Large Fibre Sign**, 3 ft. x 5 ft. for displaying in show window or tacking up outside. Will withstand severe weather.



8—
Newspaper
Advertisements

That Make EASY

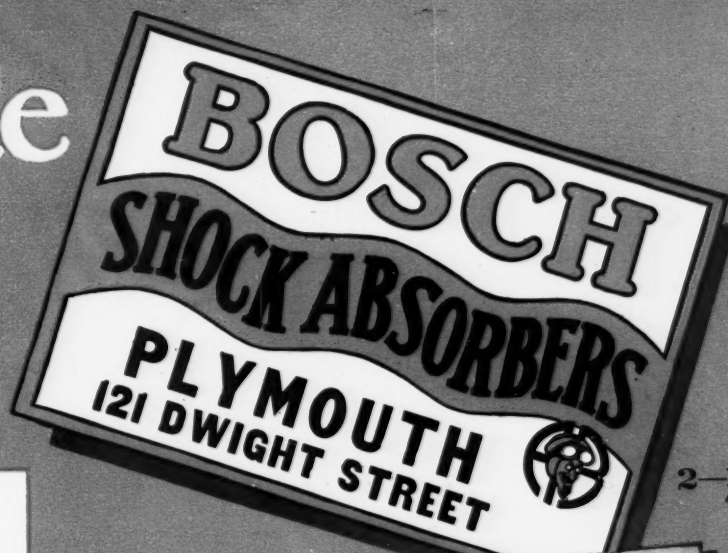
- 6—**Sales Folders**, for handing out or enclosing with letters.
- 7—**Catalog Page**, for salesmen's or dealers' catalogs.
- 8—**Newspaper Ads** for dealers' use. Cuts of illustrations, or mats of complete ads are supplied.
- 9—**Demonstrating Floor Stand**, 2 ft. x 2 ft. for use in demonstrating how the Bosch controls car springs.
- 10—**Diagram Book**, showing how to make installations on all popular makes of cars and light trucks.
- 11—**Service Manual**, gives instructions, prices, lists of service parts and fitters, etc.

Full particulars regarding liberal sales proposition and Bosch Dealer Helps will be furnished on request by the nearest Branch.

AMERICAN BOSCH MAGNETO CORP.
Main Office and Works: Springfield, Mass.

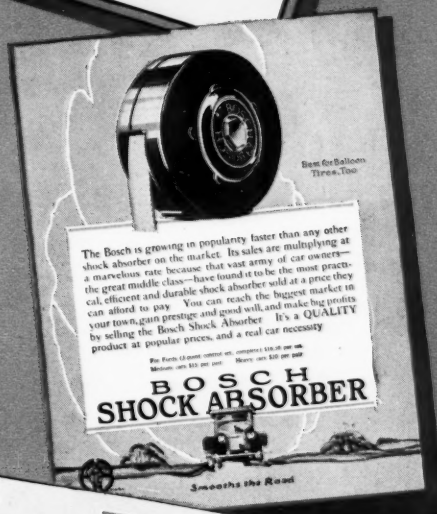
Branches:

New York Chicago Detroit San Francisco



2—Metal Tack-up Sign

3—Counter Card



4—Ford Counter Card



7—Catalog Page



6—Sales Folders

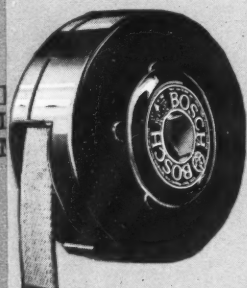


5—Large Fibre Sign

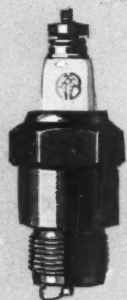
Profit Makers!



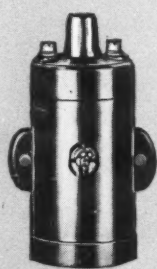
Electric
Windshield
Wiper



Shock Absorber



Spark Plug



Ignition Coil

The BOSCH Long Line of Automotive Necessities

Here's a complete line of Quality accessories—all made by one firm. It's no longer necessary to deal with one company selling shock absorbers, another selling spark plugs, etc. If you handle the Bosch Long Line, you have the selling rights to 10 popular accessories—every one high grade, thoroughly dependable, moderately priced and a real necessity.

You have the Bosch reputation and prestige to back you up, Bosch advertising and dealer helps to aid you in selling, and the liberal Bosch discounts to assure good profits.

Furthermore, there are over 2500 official Bosch Representatives throughout the world to keep Bosch Products properly serviced.

Ask About the Bosch Dealer Franchise

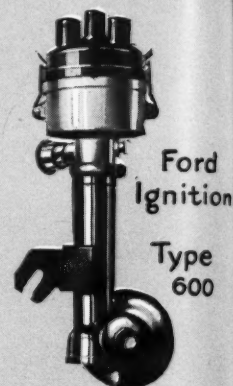
You can profit still more by becoming an Official Bosch Dealer. The requirements are simple—the benefits many. Some of the advantages you would get are:—

Special discounts on all Bosch material.
Greater profits through increased sales.
Personal assistance from Bosch salesmen.
New markets, and added prestige locally.
Reference books, sales literature, etc.
Sales promotion and advertising service.

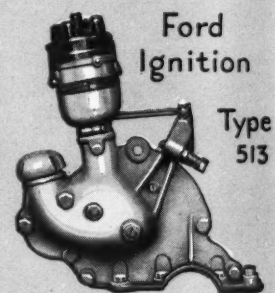
For full particulars, fill out coupon and mail TODAY.

American Bosch Magneto Corporation
Main Office and Works: Springfield Mass.

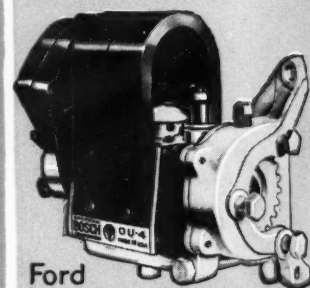
Branches
17-23 W. 60th St., New York
3737 Michigan Ave., Chicago
89-95 Hancock Ave. W., Detroit
1262 Post Street, San Francisco



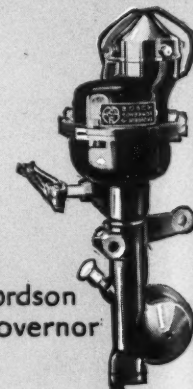
Ford
Ignition
Type
600



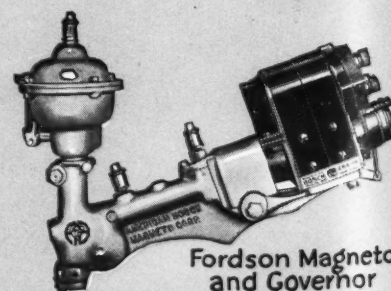
Ford
Ignition
Type
513



Ford
Ignition
Magneto
Fitting



Fordson
Governor



Fordson Magneto
and Governor

Mail This Coupon TODAY

AMERICAN BOSCH MAGNETO CORPORATION

Send me full particulars about:

- | | |
|---|--|
| <input type="checkbox"/> Complete line | <input type="checkbox"/> Electric Horn |
| <input type="checkbox"/> Shock Absorber | <input type="checkbox"/> Ford Ignition Systems |
| <input type="checkbox"/> Windshield Wiper | <input type="checkbox"/> Fordson Ignition System |
| <input type="checkbox"/> Spark Plug | <input type="checkbox"/> Fordson Throttle Governor |
| | <input type="checkbox"/> Bosch Dealer Proposition |

Ship me the following units at quantity discount C.O.D.—

.....
.....
.....

Firm Name.....

Street Address..... City..... State.....

Date..... Signature.....

Why Pay for More Than You Get?



AN advertisement with this illustration appears over the Willard Battery men signature in The Saturday Evening Post and other leading magazines.

EVERY man of us subscribes to the policy of giving every car dealer, and every car owner, full value down to the last cent. That's why we sell Willard Charged ~~bone~~ dry Batteries. And we're on the job to see that everybody gets the same fair, square, courteous treatment.

The Willard Battery men

Get Your Money's Worth

Every copy of MOTOR AGE that reaches you contains dozens of ideas that can be worked out to a profit in the Sales and Service departments of any automotive establishment. Many of these ideas you perhaps have anticipated, while others are the kind that you need and are seeking.

But—isn't it just possible that some of the ideas in every number might be of direct help to those associated with you if brought to their attention? Perhaps some of the men in your employ would welcome an opportunity to keep themselves up-to-the-minute on the news and progress of the trade, and be the more efficient for doing it. Many of our dealer subscribers find this to be the fact, and tell us that it pays them to

Pass **MOTOR AGE** Around

It would probably pay you also to "pass MOTOR AGE around." It's not hard to do. Merely paste one of our routing labels on each copy, fill in the names of the men you want to see it, and start it on its way.

Here's the Label

Pass	MOTOR AGE		Around!
After Reading, Forward to:	v		v
		Return to:	

We supply you with them gratis upon receiving your request to do so. We find them a useful thing in passing magazines around in our own office, and we are sure that you would find them just as useful as an aid in passing MOTOR AGE around.

Write for the labels. Try passing MOTOR AGE around. You'll find it pays.

MOTOR AGE 5 So. Wabash Ave., Chicago, Ill.

FROM THE STUDY
OF LIGHT COME
VICTOR LAMPS

Victorgrams

THERE'S A VICTOR
LAMP FOR EVERY
AUTOMOTIVE NEED

VOL. 1. NO. 2.

EDITED BY VICTOR LIGHT



"Madame, that officer probably saved your life,"
Clardy added with emphasis.

"ON a winding, crowded road like Dearbon Turnpike, a dark tail lamp invites a tragedy.

"Oh no, it's not just a matter of law, that officer was guarding your safety when he sent you here.

"Yes, he sends quite a few here. You see we are the nearest garage to his post at Four Corners.

"We'll have that new tail lamp on in a jiffy, and if you can spare a few more minutes I'd like to adjust your headlamps."

"I thought there must be something wrong with those headlamps," the woman answered.

"They not only bothered me but several people in passing cars have yelled all sorts of remarks at me. Please do fix them."

"We are very particular in this shop," returned Clardy, "to test all the lights on every car before we let it out. If we took care of your car this tail lamp incident would never have happened."

"Oh, that's what your sign 'Don't forget to test the lights' means."

"Exactly," said Clardy, "it's mighty important that all the lights on a car be in perfect condition. The car owner is in positive danger when they are not."

And before the woman drove away she had arranged with Clardy for the permanent care of her car.

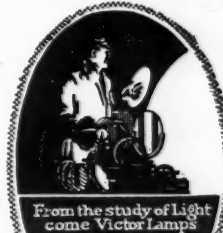
The net result was the sale of a tail lamp, six lamp bulbs (including some spares), a pair of Victor Brown-Universal Reflectors for the faulty headlamps and a new and satisfied customer.

All because Clardy knows the value of correct road lighting and sells it to his customers.

Let us tell you how you can give the same kind of service in your garage and profit by it. Write for literature today. Ask us any questions you will. Our long experience in selling better road lighting is at your disposal. Fill in and mail the coupon below TODAY—NOW!

THE CINCINNATI VICTOR COMPANY

716 Reading Road
CINCINNATI, OHIO

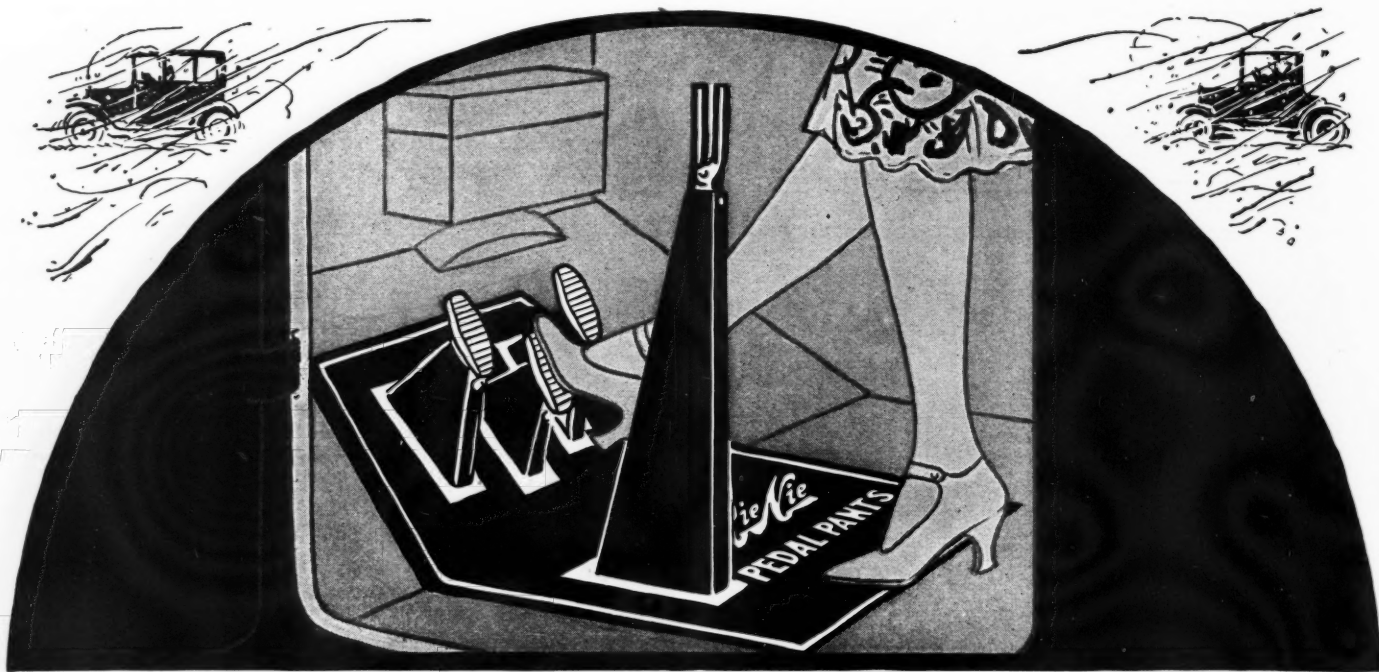


One Victor Line

FILL IN AND MAIL THIS COUPON
AND WE WILL SEND YOU FREE COPY
OF 28-PAGE BOOK ON MOTOR-
VEHICLE HEADLIGHTING.

NAME.....
ADDRESS.....

THE CINCINNATI VICTOR CO.
716 Reading Road
CINCINNATI OHIO



Rie Nie PEDAL PANTS

Pat. June, 1913, Oct., 1916

These cold winter days, demand for Rie Nie Pedal Pants blows as hard as the icy breezes. This accessory is necessary to every owner of a light car—it sells on sight. Your window display, backed by our national advertising, brings customers into your store. Put in your stock of Pedal Pants NOW!

DEALERS! Send for attractive window display material. It's free!

DURKEE-ATWOOD
MINNEAPOLIS, U.S.A. ©



Hospitality

A **SPLENDID** Hotel, The Hollenden! The spacious rooms invite to ease and quiet repose. Silent and unobtrusive is the service. Nothing is lacking in fittings or appointments which could contribute to comfort, smartness, or convenience.

Delicious food with that appetizing tang which only freshness and a touch of a master chef can give, the unapproachable cuisine at The Hollenden is veritable perfection.

In Cleveland It's

THE HOLLENDEN

Superior Avenue at East 6th Street

CLEVELAND

Theo. DeWitt, Manager.



The only spark plug that fires under the worst oil conditions

PAIGE MOTOR COMPANY SAYS:
"The Engineering Department advises me that this is the best Spark Plug they have ever had in all their experience with Spark Plugs. Paige Detroit Motor Car Co.
Tom K. Monohan."

DEALERS: We offer a special proposition to jobbers, together with complete dealer sales helps. This plug is a business builder.

GUARANTEED
to be oil proof.
fires under worst oil conditions.
2-piece and easy to clean.
give high speed and driving power.
end all spark plug troubles for years.

Express Plugs last years in pleasure cars, trucks and tractors. They stop engine trouble, give more power, and are made in all sizes, for all cars.

Write or wire Dept. L-985

EXPRESS

SPARK PLUG CORP.
ALEXANDRIA, VA.

"EXPERIENCE"

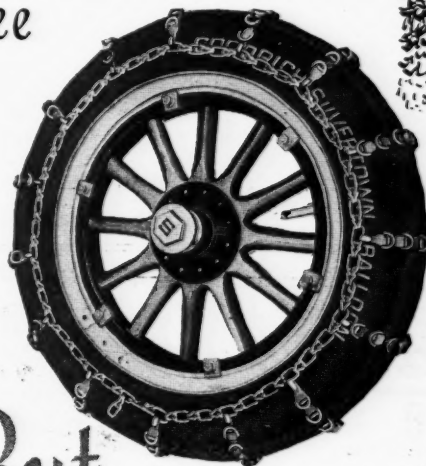
WHEN you go to an insurance man with an unusual risk that you want covered you are generally told, "I'll look up our experience on that and let you know what we can do." He then gets in touch with a central bureau where his own and perhaps other companies pool their information on such risks, and he finds out just how such cases have worked out in the past. With the facts in hand he is then prepared to handle the situation intelligently.

One of the reasons MOTOR AGE is published is to do the same thing for the automobile dealer that the central bureau does for the insurance man. It is to make available the experience of the trade—to show you how other men have met problems like your own, and how their methods have worked out.

Fortunately, there is an ample body of "experience" to be found in the automotive field. The only problem is that of placing it in the hands of the average dealer, and that is what MOTOR AGE is doing. Each week we present one or more articles showing just how some particular dealer met and overcame a typical situation and in our "Clearing House" is to be found the information given men who approached us with particular problems of which they wanted to get the experience of others.

You, too, can keep in touch with the experience of your trade by reading MOTOR AGE carefully each week. And when you need help in meeting some particular problem, don't hesitate to call on us.

Not the chain
that braced the
spreading chestnut
tree



But

Here's Traction on Ice

There's nothing to the idea that chains won't grip on smooth ice. Ordinary chains won't. They aren't built for it. There were invented to bind, lift or haul, and not to use on tires.

Protex chains wouldn't do for binding, lifting or hauling, but they do absolutely prevent skidding.

You can sell Protex knowing that your sales will increase by leaps and bounds, because they are so far beyond ordinary chains in safety that there is no competition.

Stock up now for the big chain season. If your jobber can't supply you, we're here to see that you get supplied. Write us.

A
scientific
anti-skid
device

**Protex Chain
Company, Inc.**

Waynesboro, Pa.

PROTEX TIRE
CHAINS



BRAD-CUPS

The Perfect Spring Oiler

(Pat. 9-24-18)

Single

Write at once for our proposition.



Double

C. GOODWIN BRADLEY, Inc., Syracuse, N. Y.

Made in many sizes to meet any and all requirements in garage, tire repair shop and filling station. Six types: Two Stage, Single Stage, Air Cooled, Water

Cooled, Stationary, Portable. Our low prices enable you to get a Compressor for a small investment. Send for literature.

The United States Air Compressor Co.

5304 Harvard Ave.

Cleveland, Ohio

Packard Cable

The Packard Electric Co.
Warren, Ohio



Valve Face Grinding Machine

Before you buy any valve grinding machine it will pay you to investigate the "Sioux." Nothing like it!

Ask Your Jobber About It.

Albertson & Co.

Sioux City, Iowa

Transmissions
and Clutches



Trucks, Busses
Passenger Cars

QUICK SERVICE ON COMPLETE UNITS OR PARTS

BROWN-LIFE GEAR CO.

SYRACUSE, N. Y.

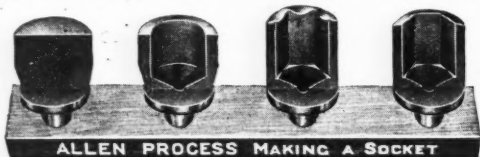
GATES VULCO

Fan Belts and Radiator Hose

Made By

The World's Largest Makers of Fan Belts

Cold-
Drawn
Sockets



ALLEN
Wrench
Sets

ALLEN PROCESS MAKING A SOCKET

The Allen Manufacturing Company, Hartford, Conn.

Thirty-seven
BRANCHES
AHLBERG BEARING COMPANY
321 EAST TWENTY NINTH STREET, CHICAGO ILLINOIS

CRANE Wheel and Gear Pullers CRANE PULLER COMPANY South Deerfield, Mass. U. S. A.



IGNITION CONDENSERS

SOMETHING YOU HAVE WANTED AND NEVER BEFORE HAD THE OPPORTUNITY OF GETTING

A Condenser that can be used with all ignition systems. Do a better job, give better service, have a satisfied customer and make more money. Let our circular tell you how. Write us for circular and prices.

Sevison Magneto Engineering Co.
538 Fernwood Ave. TOLEDO, OHIO

A Complete Line of Overland Fours
A Complete Line of Overland Sixes
Willys-Knight Fours—Willys-Knight Sixes
ALL UNDER ONE FRANCHISE

ZENITH
CARBURETOR

More
Power
Less
Fuel

Zenith - Detroit Corporation, Detroit, Mich.

The SKINNER OIL RECTIFIER

More than a new accessory, a necessity. Makes one filling of oil good for 2500 miles or more. Prevents crankcase dilution. Prevents oil pumping. Improves lubrication, thus saving fuel.

Profit by the interest this device is creating among car owners. Write for complete details.

THE MASTERCRAFTS CORP.
Brattleboro Vermont

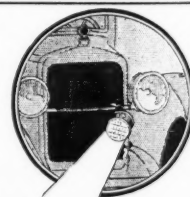
THE WALDEN FORE-LITE

Mounted ahead of the radiator and operated like a spotlight from the instrument board, the WALDEN Fore-Lite satisfies a need hitherto filled by make-shifts. Universal fittings. Selling fast wherever introduced. Ask your jobber, or write us direct, giving his name.

THE WALDEN CO.

1114 S. Michigan Ave.

Chicago



Bumpers, tempered and nickel-plated by our exclusive process. Strong brackets, fit all cars and bumpers.

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760 So. Pierce St.
Milwaukee, Wis.

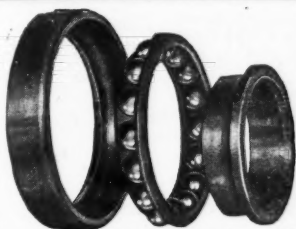
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BUMPERS



Write for catalog

Pedrick
HEAT-SHAPED
PISTON RINGS

Heat shaped to insure perfect roundness, sold at almost the price of a snap ring. Wilkening Mfg. Company
15th and Mt. Vernon St., Philadelphia, Pa.



BEARINGS Plus SERVICE

The services of our Engineering Department are always at the command of users of Angular Contact Radial Bearings or Angular Contact Thrust Ball Bearings. Years of practical experience are often valuable for savings.

Won't you get in touch with us?

THE BEARINGS COMPANY OF AMERICA
LANCASTER, PENNA.

Western Sales Office,
1012 Ford Bldg.,
Detroit, Mich.

25

Uses

On Every

Car

TANPAC

TENAX
SHEET
PACKING

The service man who is acquainted with the uses of TENAX and TANPAC Sheet Packing, knows where to go for the best results in the case of 25 points of necessary maintenance on every car. Write us for complete information on these 25 ways to make money with TENAX and TANPAC.

Advance Packing & Supply Co.

808 Washington Blvd.,

Chicago, Ill.

Pacific Coast Distributors: Allied Industries, Inc., Los Angeles, San Francisco, Portland and Seattle

A New Chapter Every Thursday

Each issue of MOTOR AGE is a new chapter, continuing the story of the development of the industry.

And for those who apply the new ideas it gives them, it also continues the story of the development of their individual success.

Read MOTOR AGE every week.

MOTOR AGE

5 So. Wabash Ave.

Chicago, Ill.

WEL-EVER

"OIL CONTROL" PISTON RINGS

The Motor Necessity That Has Made Good
Backed by Seven Years' Satisfactory Service

THE WEL-EVER PISTON RING CO., TOLEDO, OHIO

Sold most everywhere. If your dealer cannot supply you write us.

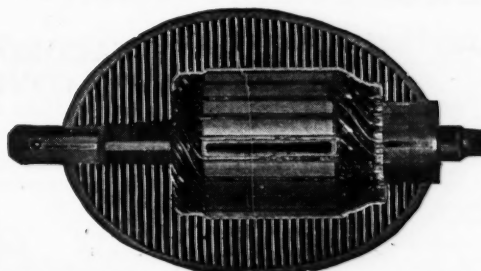
CURTIS

AIR COMPRESSORS-HOISTS-TROLLEYS-CRANES

ST. LOUIS

Curtis Pneumatic
Machinery Co.

1527 Kienlen Ave.
St. Louis, Mo.



You Too Can Get This Armature Velvet

With the next burned out armature do this: Pack and ship to Fredericks at Lock Haven. A rewind exactly the same, guaranteed for 90 days, will be shipped back to you immediately.

Benefit by Fredericks' new low rates. Follow this simple prescription always and a steady, profitable business will be yours. A booklet that is free gives all the data.

FORD GENERATOR Armatures Rewound.....\$1.50

FORD STARTER Armatures Rewound.....1.50

ALL OTHER TYPES TWO-UNIT Generator Armatures

Rewound.....3.25

ALL OTHER TYPES TWO-UNIT Starter Armatures

Rewound.....3.25

ALL TYPES MOTOR GENERATOR Armatures Re-

wound.....8.00

GUARANTEED to give the same
satisfaction as new armatures.

The H. M. FREDERICKS CO., Lock Haven, Pa.

FREDERICKS
Rewinding Service

Buy SMOOTH-KUT EXPANSION REAMERS

(TRADE NAME REGISTERED)
With FULL spiral flutes that shear metal clean.

They cut a round, smooth hole without chatter—keep an edge longer and are reground by us at cost.

Patented April 7, 1925.
Avoid inferior imitations.

Order through
Jobber.

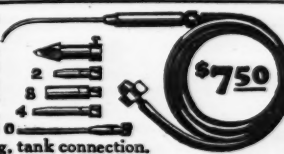


Millersburg Reamer & Tool Co., Millersburg, Pa.

TURN WASTED TIME INTO MONEY!

Every Purchaser Finds Numerous Uses for the
Torit Acetylene Torch No 13

Uses Acetylene Only. No oxygen or air pressure required; tips suck in air. Simply connect to Presto auto tank, light gas, and the outfit is put to work. Beats anything you ever tried for soldering, heating, melting or light brazing. Consists of 4 tips for different kinds of work, soldering copper, 5 ft. tubing, tank connection.




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Anti-Skid Chains
PATENTS PENDING
WARE
Wear Longer

Manufactured
by
**CHICAGO ROLLER
SKATE COMPANY**
4458 West Lake Street
CHICAGO ILL.

TASCO
Gas Gauge for
FORD,
CHEVROLET and
OVERLAND



Sells Quick at
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Retail

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Akron, Ohio

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write for
your copy

**The Book
"AIR PROFITS"**
Shows how to get
more work out of
an air compressor.
How to use com-
pressed air for
many pay jobs.

BRUNNER MFG. CO.
UTICA NEW YORK
BRUNNER
AIR COMPRESSORS

RAMCO
Cushion
INNER RINGS

fit behind piston rings and keep them in perfect contact with the cylinder walls at any motor speed or temperature.

RAMSEY ACCESSORIES MFG. CORP., ST. LOUIS, MO.

Simplicity
REBORER AND GRINDER

A big money-maker in any automobile repair shop or garage. Ask for free demonstration in your own shop.

Simplicity Manufacturing Company
Port Washington, Wisconsin

TAKE THE END-PLAY OUT!
—WITHOUT PULLING THE MOTOR



The C. A. ADJUSTABLE CENTER BEARING CAP corrects Ford crankshaft end play and sets magneto for highest efficiency without removing the motor. Easily and quickly installed. Guaranteed for one year. List price \$3.75. Ask your jobber or dealer or write us direct.

ADJUSTABLE BEARING CO., Inc.
Pat'd 7-22-'22 Dept. M. Brazil, Indiana

GOODRICH-LENHART
PRODUCTS
Cable

Starting - Lighting - Ignition

Goodrich Cable is sold in lengths found to be the most popular with the average buyer—coils of 100 ft. packed in individual cartons. Both shop men and car owners like the clean 100 ft. package idea—and this leads to quick and profitable sales. Send for samples, prices and discounts.

THE GOODRICH-LENHART MFG. CO., Hamburg, Pa.


The Cooper
CUT-OUT
ENGINE TESTER AND
CARBON OUTLET VALVE

Dependable.
Certain. Easily
installed. A big
seller all the
year round.

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"Made to Blue Print"
"Bp" guarantees to the Replacement Trade the same high standard of Quality and Accuracy demanded by the car manufacturer. "Bp"
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Kawneer
SOLID COPPER
STORE FRONTS
Write for Special Book Garage Front
THE KAWNEER CO., 3024 Front St., Niles, Mich.

A KLEAN-RITE Auto Laundry Franchise Is a Big Money-Maker



Write for a copy of our booklet on "The Business Possibilities of An Auto Laundry." It contains valuable information. Sent free upon request.

KLEAN-RITE AUTO LAUNDRY CO.
1710 E. 75th St., Chicago

Rubber Tubing for the Trade
EKLA radiator hose—All-Rubber or Cloth-Inserted, tire pump hose and windshield wiper tubing, all in standard lengths, will show you better profits and your customers better service. Insist on EKLA Brands when buying these items.
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PROTECTOMOTOR 99 9/10
REG. U.S. PAT. OFF.
Perfect Positive Protection

Filters all dust, sand and grit out of air supply to carburetor and motor. Write us for facts.

STAYNEW FILTER CORPORATION
Rochester, N. Y.

EFFICIENT

Here is a new necessity and convenience for any make of closed car and so low priced every owner is a prospect. This **\$1.50**

CLOSED CAR VENTILATOR

Adapted to any make of closed car. Prevents moist windows, gases, and keeps interior always well ventilated winter and summer. Write today.

Lewis Manufacturing Company, Inc.
219 Orchard St. Sharon, Pa.

PISTON PIN BUSHINGS
Write for Price List No. 16
JOHNSON BRONZE CO.
New Castle, Pa.



JOHNSON
STANDARD QUALITY

Thermoid
Hydraulic Compressed
Brake Lining

FROM THICK
TO THIN
DOWN TO THE
LAST PLY
IT HOLDS



UNITED STATES Portable Electric DRILLS

Ask for
Catalog 105

THE UNITED STATES ELECTRICAL TOOL CO.
Cincinnati, Ohio, U. S. A.

Built by the old-
est maker of
Portable Electric
Drills in the
World.



SMOKELESS CARS DRY PLUGS

Guaranteed with
MEGSON RINGS
4 years' tested service
Your jobber—at once
or write direct

Megson Piston Ring Co.
807-11 Flatbush Ave., Brooklyn, N. Y.

"As Silent as a Shadow" Quincy Compressors Quincy, Illinois

J-538

Johns-Manville ASBESTOS BRAKE LINING

KISSEL

CUSTOM BUILT
Kissel Motor Car Co., Hartford, Wis.



They Won't Come Back

Those jobs won't come back showing oil
passing, compression loss and crank-case dilu-
tion if you use a Hall Hone. The Hall makes
cylinders both round and parallel. Ask your
jobber.

THE HALL MFG. COMPANY
511 Hall Bldg., 1600-06 Woodland Ave.
Toledo, Ohio



The Big Seller in the Ford
Pump field—at a new low
price. Get our dealer plan.

The Turner Mfg. Co., 31st and Reanoke Rd.
Kansas City, Mo.

U-Need-It

ROTARY PUMP
for FORDS

ATWATER KENT

Ignition for FORDS

\$10.80 Including Cables and Fittings.

\$150 to \$300 PROFIT EVERY MONTH WITH 1 DAY BATTERY CHARGING SERVICE

Fall and Winter's biggest money-maker.
Increasing business and profits in thou-
sands of shops. Recommended by the
leading battery and car makers. Write
for information book. No obligation.
Hobart Bros. Co., Box A 23, Troy, Ohio.

Only \$16.50 Monthly Pays for Your HB



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is
**NO
SLIP**
to the
Tiger
Claw
Grip

UNIVERSAL SKID-LESS CHAIN COMPANY
NILES MICHIGAN U.S.A.

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PARTS

**PISTONS & PINS
FOR OLD AND NEW CARS
LIGHT WEIGHT CAST IRON PISTONS
FINEST QUALITY LOWEST PRICES**

SPECIAL DISCOUNT TO DEALERS

LAMMERT & MANN CO.

215-21 N. Wood St., Chicago, Phone West 4918

AUTO PARTS

**SAVES 50% TO 75% ON ALL CARS
New and Used Gears—Springs and Axles—Cylinders—
Motors—Rear Systems, etc. Wire or Write**

INDIANA AUTO PARTS CO.

608-10 N. CAPITOL AVE., INDIANAPOLIS, IND.

LARGEST CAR WRECKERS IN INDIANA

DOWMETAL PISTONS

Lighter, stronger, and longer wearing than aluminum
or iron. Can be fitted with bronze bushings in the
wrist pin holes same as in iron pistons. Dowmetal
has no permanent growth. The expansion is little
more than iron.

SEND FOR PARTICULARS

LAMMERT & MANN CO.

Cylinder and Crankshaft Grinding

215-21 N. Wood St. CHICAGO Phone West 4918

HELP WANTED

WANTED BY PACKARD DISTRIBUTOR—Combination
Shop Foreman and Tester, must have at least three
years experience in Packard work, and be able to direct
and produce results. Write full details with references
to Chipley Motor Company, Raleigh, N. C.

PARTS

HOUSE OF A MILLION AUTO PARTS

The largest stock of new and used car and truck
parts in the world. We have everything. Always
mention model and serial number in order. Write
us. All inquiries answered promptly.

DOUGLAS AUTO PARTS CO., INC.

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Milo B. Stevens & Co., Registered Patent Attorneys.
Offices: 639 F St., Washington, D. C.
10 Monadnock Block, Chicago, Ill.

Attorney-at-Law and Solicitor of Patents

C. L. PARKER

Formerly Member Examining Corps, United
States Patent Office

American and foreign Patents secured. Searches made
to determine patentability and validity. Patent suits
conducted. Pamphlet of instruction sent upon request.

McGill Building, WASHINGTON, D. C.

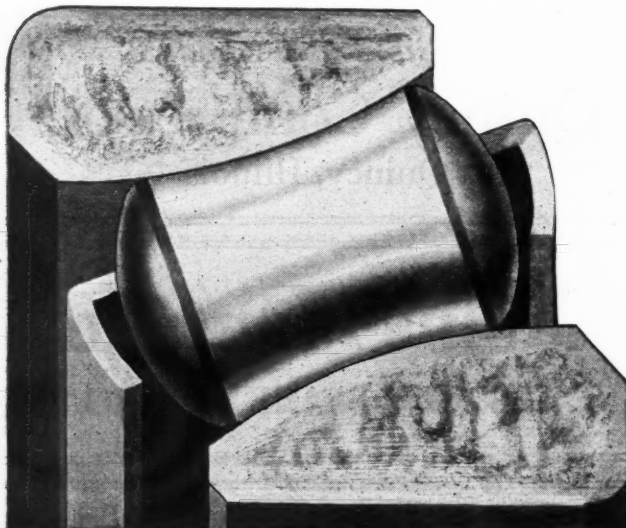
HELP WANTED

Large Corporation Operating a fleet of motor vehicles

is organizing an Auto-Motive Department to
look after the standardization, purchasing,
routing, maintenance, garage practice and
other details covering this fleet. This cor-
poration requires an executive to head this
department. He should have had mechanical
engineering training and experience in han-
dling fleets of motor trucks. Replies should
give outline of education, experience and
past positions held. Reply to Box 6251,
care Motor Age, 5 S. Wabash Ave., Chicago,
Ill.

SALESMAN—Permanent position to travel in middle west
territory calling on wholesale heavy hardware and automo-
tive equipment jobbers. Prefer man acquainted with
wholesale jobbing trade and mechanical experience. State
age, experience and salary. Address Box 6252, Motor Age,
5 S. Wabash Ave., Chicago, Ill.

WANTED—Automobile Mechanics, experienced in motor
reconditioning work. Must have selling ability and \$200
cash capital, to become factory representative for Simplicity
precision machines and tools advertised in this issue.
Qualified men make \$500 a month. Reference required.
Write SIMPLICITY MFG. CO., Port Washington, Wis.



SHAFER

Self-Aligning ROLLER BEARING

PAT. & PATS. PENDING

UNION MOTORS, Inc.

Maxwell

DISTRIBUTORS FOR SOUTHERN CALIFORNIA
981 SO FLOWER AT TENTH ST
PHONE 60781

LOS ANGELES, CAL.
June 6th, 1925.

Shafer Bearing Corporation
Chicago, Ill.

Gentlemen:

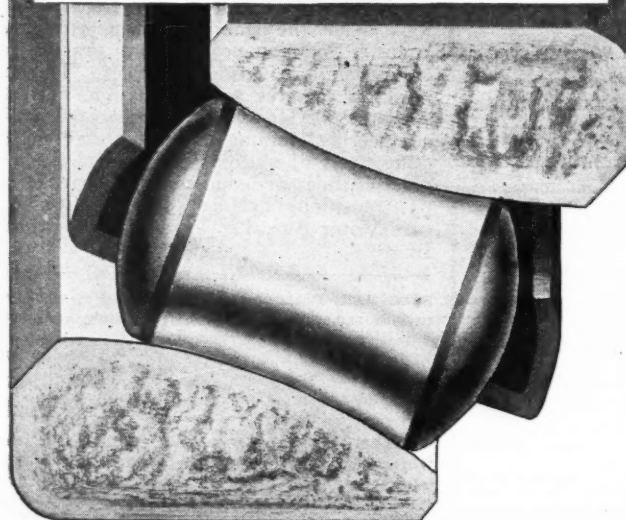
Replying to your inquiry of recent date relative to service and satisfaction we have had with SHAFER Bearings, wish to say that our experience with your product has been more than satisfactory.

To make a long story short, wish to say that we are more than satisfied with SHAFER Bearings and in as much as many of our GOOD MAXWELLS have run up big mileage with apparently no trouble what so ever, is conclusive evidence that they are all you claim for them.

Yours very truly,

Joe. A. Lawrence
UNION MOTORS, Inc.

SHAHER BEARING CORPORATION
6501 WEST GRAND AVENUE
CHICAGO, ILL.



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Most dealers think their fan belt stock must be an Ugly Duckling—a no-profit line carried to meet the occasional demand. But when the dealer who handles Graton & Knight Leather Fan Belts figures up his year's sales he finds that the Ugly Duckling lays a golden egg.

Graton & Knight Fan Belts are steady, day-in-and-day-out sellers. They have no "off season." They require no special sales effort.

With our quick turnover system you can keep your stock at a minimum, turn it oftener and so make added profits. You carry endless belts for the more popular car only. Roll belting, which is easily cut to fit, for the others. Our handy display rack is a sales-making fixture you will be proud to have on your floor.

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Send in the coupon today and let us give you the details of our plan for increasing your fan belt profits.



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THE GRATON & KNIGHT MFG. CO., Worcester, Mass., U. S. A.
Send fan belt information: 101-G

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Prices, quality for quality, 5 to 10% lower than the field
Tanners—makers of belts, straps, packings, fan belts, lace leather, etc.

Van says—"What you get for nothing won't break you."

A Sales Force Free!

When you make a sale without trying, it's extra money in your pocket. It saves time, which is money, and work, which costs money.

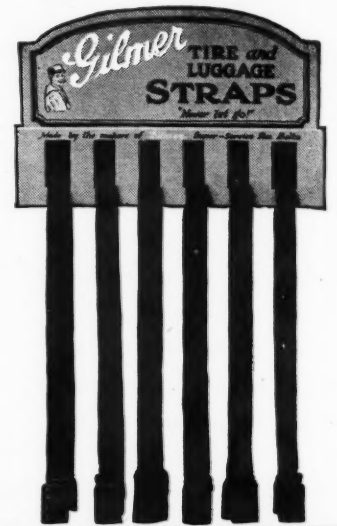
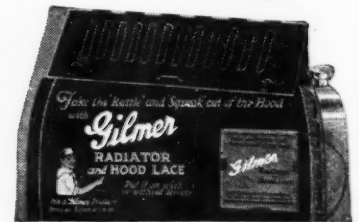
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And what do these noiseless, errorless, always-on-the-job Gilmer salesmen cost you? Not a red cent.

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Using your wits pays better than working hard.

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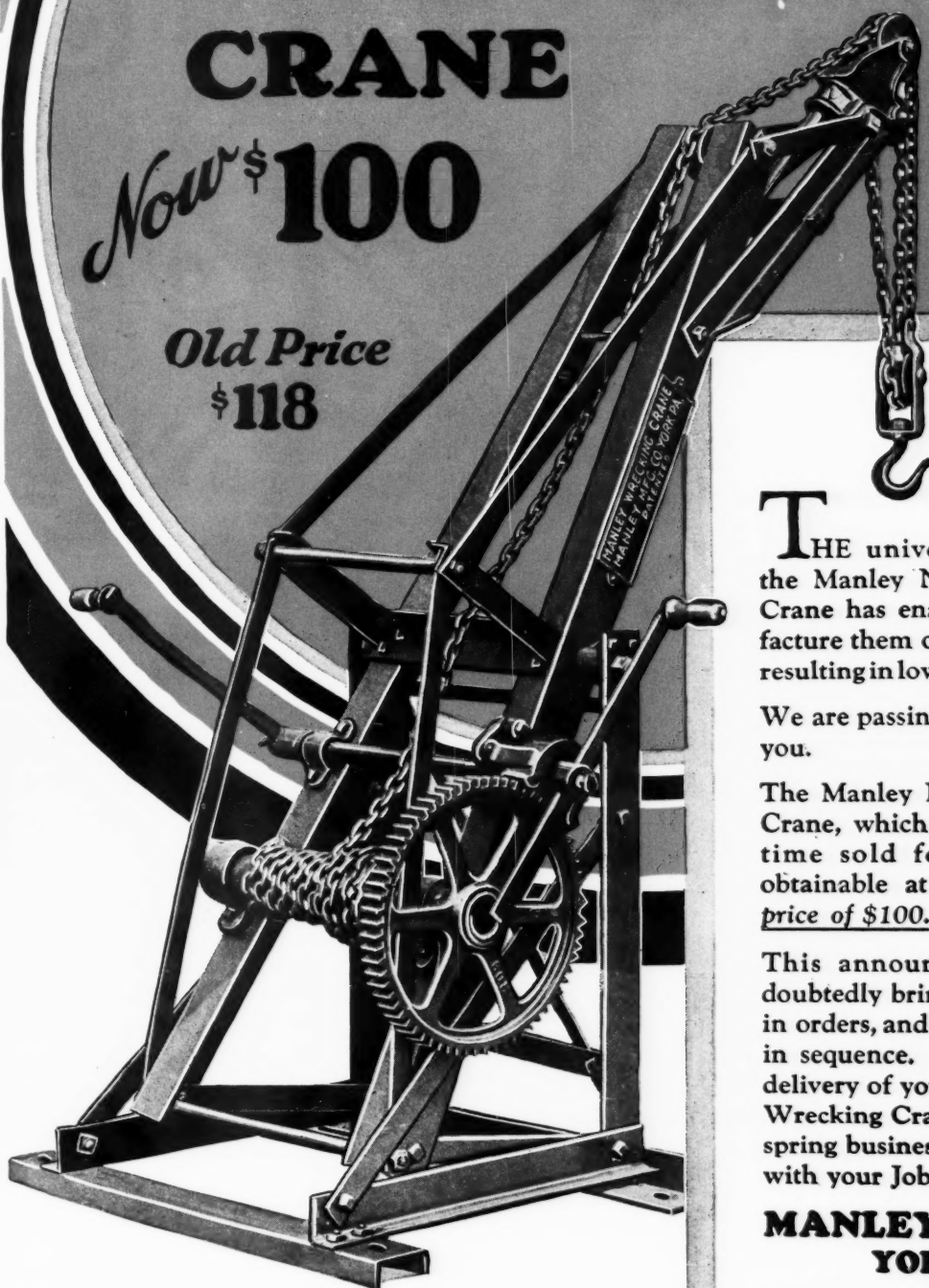


Price Reduction

MANLEY No 101 WRECKING CRANE

Now \$100

Old Price
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THE universal demand for the Manley No. 101 Wrecking Crane has enabled us to manufacture them on a quantity basis, resulting in lower production cost.

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The Manley No. 101 Wrecking Crane, which has up until this time sold for \$118, is now obtainable at the unusually low price of \$100.

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MANLEY MFG. CO.
YORK, PA.



The World is Quick to See and Seize Real Progress

WHEN automobiles were still in the open-car stage of development—in the days when windshields and tops were sold as extras—the creation of the first closed car was a decided stroke of progress.

It was progress, again, when two-door coaches were offered at open-car prices.

And now Chandler has pushed ahead to yet greater and more appealing progress—the consummation of a rich and roomy 4-Door Sedan priced less than a 2-door coach. This new Chandler is welcomed as progress because it fulfills the public's best conceptions of what a modern closed car should be—and is, therefore, selling in a volume very profitable to dealers.

This important advance in body-building is called, very appropriately, the new Twentieth Century Sedan—and it lists at \$1490, actually less than the Chandler touring car!

You probably know already what is happening. Sales are literally pyramiding. Chandler is the talk of the closed-car market—and every day's mail brings a grist of letters from other dealers, inquiring about the Chandler franchise.

This is natural. Progress that creates such a heavy demand, to the profit of the dealer, is the kind of progress that appeals to sound-thinking men of ambition. For information about available opportunities, write or wire.

THE CHANDLER MOTOR CAR COMPANY, CLEVELAND; Export Department, 1819 Broadway, New York City

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